

Please type a plus sign (+) inside this box → ☐

Approved for use through 09/30/2000. OMB 0651-0032
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 C.F.R. § 1.53(b))

Attorney Docket No. EPI-067191

First Inventor or Application Identifier Jonathan W. Nyce

Title LOW ADENOSINE ANTI-SENSE OLIGONUCLEOTIDE...

Express Mail Label No. EJ 664079305 US

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO:

Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

1. ☒ * Fee Transmittal Form (e.g., PTO/SB/17)
(Submit an original and a duplicate for fee processing)
2. ☒ Specification [Total Pages
(preferred arrangement set forth below)
 - Descriptive title of the invention
 - Cross References to Related Applications
 - Statement Regarding Fed sponsored R & D
 - Reference to Microfiche Appendix
 - Background of the invention
 - Brief Summary of the invention
 - Brief Description of the Drawings (if filed)
 - Detailed Description
 - Claim(s)
 - Abstract of the Disclosure
3. ☐ Drawing(s) (35 U.S.C. 113) [Total Sheets
4. Oath or Declaration [Total Pages
 - a. ☐ Newly executed (original or copy)
 - b. ☐ Copy from a prior application (37 C.F.R. § 1.63(d))
(for continuation/divisional with Box 16 completed)
 - i. ☐ DELETION OF INVENTOR(S)
Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. §§ 1.63(d)(2) and 1.33(b).

5. ☐ Microfiche Computer Program (Appendix)
6. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
 - a. ☒ Computer Readable Copy
 - b. ☒ Paper Copy (identical to computer copy)
 - c. ☒ Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

7. ☒ Assignment Papers (cover sheet & document(s))
8. ☐ 37 C.F.R. § 3.73(b) Statement (when there is an assignee) ☒ Power of Attorney (2)
9. ☐ English Translation Document (if applicable)
10. ☒ Information Disclosure Statement (IDS)/PTO-1449 ☒ Copies of IDS Citations
11. ☐ Preliminary Amendment
12. ☒ Return Receipt Postcard (MPEP 503)
(Should be specifically itemized)
13. ☐ * Small Entity Statement filed in prior application, Status still proper and desired (PTO/SB/09-12)
14. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed)
15. ☒ Other: checks, cover letter

* NOTE FOR ITEMS 1 & 13: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28).

16. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment.

☒ Continuation ☐ Divisional ☐ Continuation-in-part (CIP)

of prior application No: 60,127,958

Prior application information: Examiner

Group / Art Unit:

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 4b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

17. CORRESPONDENCE ADDRESS

☐ Customer Number or Bar Code Label

or ☒ Correspondence address below

(Insert Customer No. or Attach bar code label here)

Name	Viviana Amzel, Ph.D.				
	ARTER & HADDEN, LLP				
Address	725 South Figueroa Street				
	Suite No. 3400				
City	Los Angeles,	State	CA	Zip Code	90017
Country	USA	Telephone	(213) 430-3520	Fax	(213) 617-9255

Name (Print/Type)	Viviana Amzel, Ph.D.	Registration No. (Attorney/Agent)	30,930
Signature		Date	APRIL 4, 2000

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

SEQ. BOX

For: LOW ADENOSINE ANTI-SENSE OLIGONUCLEOTIDE, COMPOSITIONS, KIT & METHOD FOR TREATMENT OF AIRWAY DISORDERS ASSOCIATED WITH BRONCHOCONTRICION, LUNGH INFLAMMATION, ALLERGY(IES) & SURFACTANT DEPLETION

Commissioner for Patents, Washington D C 20231, on April 4, 2000, by Jenny R. Wilson

Jenny R. Wilson

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY
STATUS (37 CFR 1.9(f) AND 1.27 (d)) - NONPROFIT ORGANIZATION**

Docket No.
P66 42161

Serial No.
To Be Assigned

Filing Date
Herewith

Patent No.

Issue Date

Applicant/ Jonathan W. Nyce and W. James Metzger
Patentee:

Invention:

Low Adenosine Anti-Sense Oligonucleotide, Compositions, Kit & Method for Treatment of Airway Disorders
Associated with Bronchoconstriction, Lung Inflammation, Allergy(ies) & Surfactant Depletion

I hereby declare that I am an official empowered to act on behalf of the nonprofit organization identified below:

NAME OF ORGANIZATION: East Carolina University
ADDRESS OF ORGANIZATION: 103 Spilman Building
Greenville, North Carolina 27858

TYPE OF NONPROFIT ORGANIZATION:

- ☐ University or other Institute of Higher Education
- ☒ Tax Exempt under Internal Revenue Service Code (26 U.S.C. 501(a) and 501(c)(3))
- ☐ Nonprofit Scientific or Educational under Statute of State of The United States of America
Name of State: _____ Citation of Statute: _____
- ☐ Would Qualify as Tax Exempt under Internal Revenue Service Code (26 U.S.C. 501(a) and 501(c)(3)) if Located in The United States of America
- ☐ Would Qualify as Nonprofit Scientific or Educational under Statute of State of The United States of America if Located in The United States of America
Name of State: _____ Citation of Statute: _____

I hereby declare that the above-identified nonprofit organization qualifies as a nonprofit organization as defined in 37 C.F.R. 1.9(e) for purposes of paying reduced fees to the United States Patent and Trademark Office regarding the invention described in:

- ☐ the specification to be filed herewith.
- ☒ the application identified above.
- ☐ the patent identified above.

I hereby declare that rights under contract or law have been conveyed to and remain with the nonprofit organization with regard to the above identified invention.

If the rights held by the above-identified nonprofit organization are not exclusive, each individual, concern or organization having rights to the invention is listed on the next page and no rights to the invention are held by any person, other than the inventor, who could not qualify as an independent inventor under 37 CFR 1.9(c) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ no such person, concern or organization exists.
☐ each such person, concern or organization is listed below.

FULL NAME _____
 ADDRESS _____

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME _____
 ADDRESS _____

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME _____
 ADDRESS _____

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME _____
 ADDRESS _____

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING: Richard R. Eakin
 TITLE IN ORGANIZATION: Chancellor
 ADDRESS OF PERSON SIGNING: East Carolina University
103 Spilman Building
Greenville, North Carolina 27858

SIGNATURE:

Richard R. Eakin

DATE:

4/21/99

**LOW ADENOSINE ANTI-SENSE OLIGONUCLEOTIDE, COMPOSITIONS, KIT
& METHOD FOR TREATMENT OF AIRWAY DISORDERS ASSOCIATED
WITH BRONCHOCONSTRICTION, LUNG INFLAMMATION,
ALLERGY(IES) & SURFACTANT DEPLETION**

5

BACKGROUND OF THE INVENTION

Field of the Invention

This patent relates to a composition comprising oligonucleotides (oligos) that are anti-sense to adenosine receptors, and contain low amounts of or no adenosine (A). These agents are suitable for the treatment, among others, of pulmonary diseases associated with inflammation, impaired airways, including lung disease and diseases whose secondary effects afflict the lungs of a subject. Examples of these diseases are allergies, asthma, impeded respiration, allergic rhinitis, pain, cystic fibrosis, and cancers such as leukemias, e.g. colon cancer, and the like. The present agent may be administered prophylactically or therapeutically in conjunction with other therapies, or may be utilized as a substitute for therapies that have significant, negative side effects.

15 **Background of the Invention**

Respiratory ailments, associated with a variety of diseases and conditions, are extremely common in the general population, and more so in certain ethnic groups, such as African Americans. In some cases they are accompanied by inflammation, which aggravates the condition of the lungs. Asthma, for example, is one of the most common diseases in industrialized countries. In the United States it accounts for about 1% of all health care costs. An alarming increase in both the prevalence and mortality of asthma over the past decade has been reported, and asthma is predicted to be the preeminent occupational lung disease in the next decade. While the increasing mortality of asthma in industrialized countries could be attributable to the depletion reliance upon beta agonists in the treatment of this disease, the underlying causes of asthma remain poorly understood.

Adenosine may constitute an important mediator in the lung for various diseases, including bronchial asthma. Its potential role was suggested by the finding that asthmatics respond favorably to aerosolized adenosine with marked bronchoconstriction whereas normal individuals do not. An asthmatic rabbit animal model, the dust mite allergic rabbit model for human asthma, responded in a similar fashion to aerosolized adenosine with marked bronchoconstriction whereas non-asthmatic rabbits showed no response. More recent work with this animal model suggested that adenosine-induced bronchoconstriction and bronchial hyperresponsiveness in asthma may be mediated primarily through the stimulation of adenosine receptors. Adenosine has also been shown to cause adverse effects, including death, when administered therapeutically for other diseases and conditions in subjects with previously undiagnosed hyper reactive airways.

A handful of medicaments have been available for the treatment of respiratory diseases and conditions, although in general they all have limitations. Theophylline, an important drug in the treatment of asthma, is a known adenosine receptor antagonist which was reported to eliminate adenosine-mediated bronchoconstriction in asthmatic rabbits. A selective adenosine A₁ receptor antagonist, 8-cyclopentyl-1, 3-dipropylxanthine (DPCPX) was also reported to inhibit adenosine-mediated bronchoconstriction and bronchial hyperresponsiveness in allergic rabbits. The therapeutic and preventative applications of currently available adenosine A₁ receptor-specific antagonists are, nevertheless, limited by their toxicity. Theophylline, for example, has been widely used in the treatment of asthma, but is associated with frequent, significant toxicity resulting from its narrow therapeutic dose range. DPCPX is far too toxic to be useful clinically. The fact that, despite decades of extensive research, no specific adenosine receptor antagonist is available for clinical use attests to the general toxicity of these agents. Anti-sense oligonucleotides have received considerable theoretical consideration as potential useful pharmacological agents in human disease. Their practical application in actual models of human disease, however, has been somewhat elusive. One important impediment to their effective application has been a difficulty in finding

an appropriate route of administration to deliver them to their site of action. Many in vivo experiments were conducted by administering anti-sense oligonucleotides directly to specific regions of the brain. These applications, however, necessarily have limited clinical utility due to their invasive nature. Although anti-sense oligonucleotides have received considerable theoretical consideration for their potential use as pharmacological agents in human disease, finding practical and effective applications for these agents in actual models of human disease, however, have been few and far between, particularly because they had to be administered in large doses. Another important consideration in the pharmacologic application of these molecules is their route of administration. Many in vivo applications have involved the direct administration of anti-sense oligonucleotides to limited regions of the brain. Such applications, however, have limited clinical utility due to their invasive nature. The systemic administration of anti-sense oligonucleotides as pharmacological agents has been found to have also significant problems, not the least of which being an inherent difficulty in targeting disease-involved tissues. That is, the necessary dilution of the anti-sense oligonucleotide in the circulatory system makes extremely difficult to attain a therapeutic dose at the target tissue by intravenous or oral administration. The bioavailability of orally administered anti-sense oligonucleotides is very low, of the order of less than about 5%. Anti-sense oligonucleotides have been used in therapy by many, including the present inventor, who in his previous work successfully treated various diseases and conditions by direct administration of these agents to the lung. In many instances, other workers have had to face the difficulties associated with the delivery of DNA molecules to a desired target. Thus, the route of administration may be of extreme importance for treating generalized diseases and conditions as well as those which are localized. In contrast, up to the present time, the delivery of anti-sense agents to the lung has been relatively undeveloped. As described by the present inventor in more detail below, the lung is an excellent target for the direct administration of anti-sense oligonucleotides and provides a non-invasive and a tissue-specific route.

Clearly, there exist presently no effective therapies for treating these ailments, or at least no therapies which are effective and devoid of significant detrimental side effects. Accordingly, there is still a need for an agent for the treatment of adenosine mediated ailments afflicting the pulmonary and respiratory ailments affecting the lung airways, including respiratory problems, bronchoconstriction, inflammation, allergy(ies), depletion or hyposecretion of surfactant, etc., which is highly effective and sufficiently selective to avoid detrimental side effects produced by other therapies. In addition, there is a definite need for making available a delivery method that will require low amounts of therapeutic agents and will be effective for the rapid and targeted access of tissue genes or mRNAs and the reversal of untoward effects afflicting a subject.

SUMMARY OF THE INVENTION

The present invention generally relates to a pharmaceutical or veterinary composition, comprising an anti-sense oligonucleotide(s) (oligo(s)) which is (are) effective for alleviating bronchoconstriction and/or lung inflammation, allergy(ies), and/or surfactant depletion and/or hyposecretion, when administered to a mammal, the oligo containing about 0 to about 15% adenosine (A) and being anti-sense to a target selected from the group consisting of the initiation codon, the coding region, the 5'-end and the 3'-end genomic flanking regions, the 5' and 3' intron-exon junctions, and regions within 2 to 10 nucleotides of the junctions of a gene encoding a target polypeptide associated with lung airway dysfunction or anti-sense to the polypeptide mRNA; combinations of the oligos; and mixtures of the oligos; and a pharmaceutically or veterinarily acceptable carrier or diluent. The targets are typically molecules associated with airway disease, cancer, etc., such as transcription factors, stimulating and activating peptide factors, cytokines, cytokine receptors, chemokines, chemokine receptors, adenosine receptors, bradykinin receptors, endogenously produced specific and non-specific enzymes, immunoglobulins and antibodies, antibody receptors, central nervous system (CNS) and peripheral nervous and non-nervous system receptors, CNS and peripheral nervous and non-nervous system peptide transmitters, adhesion molecules, defensins, growth factors, vasoactive peptides and receptors, binding proteins, and malignancy associated proteins, among others. Examples are oligo(s) targeted to adenosine receptor(s) and it(they) are typically

present in the composition in an amount effective to reduce adenosine mediated effect(s), such as airway obstruction, inflammation, allergy(ies), and surfactant depletion, among others. The adenosine receptor is preferably selected from the group consisting of the adenosine A₁, A_{2b}, and A₃ receptors, and in some instances even adenosine A_{2a} receptors. The oligo of the invention may be applied to the preparation of a medicament for (a) reducing adenosine-mediated bronchoconstriction, impeded respiration, inflammation, allergy(ies), depletion production of surfactant, and other detrimental pulmonary effects in a subject in need of treatment, and/or for (b) treating specific diseases and conditions such as asthma, cystic fibrosis, allergic rhinitis, COPD, etc. For the first time this invention provides the targeted administration of one or more oligonucleotides directly into the respiratory system. The oligos may be directed to any target and are intended for fast delivery through the mucosal tissue of the lungs for hybridization to a desired target polynucleotide, e. g. mRNA, to prevent gene transcription and translation, such that protein expression will be reduced, hampered, or completely stopped. Thus, this invention also provides a more general method for administering oligonucleotides that are anti-sense to targeted genes and mRNAs associated with any type of diseases, by direct administration into the respiratory system, e. g. by inhalation, by introduction of a solution or aerosol into the respiratory airways, and/or directly into the lung.

The present oligos, moreover, are suitable for reducing effects mediated by a variety of target proteins and genes, for example adenosine-mediated effects, including pulmonary, respiratory, and other associated effects, e. g. bronchoconstriction, inflammation, immune mediated reactions, allergy(ies) and other airway problems, which may be caused by different conditions, including cancer. Examples of diseases and conditions, which may be treated preventatively, prophylactically and therapeutically with the agent of this invention, are pulmonary vasoconstriction, inflammation, allergies, asthma, impeded respiration, respiratory distress syndrome, pain, cystic fibrosis, allergic rhinitis, pulmonary hypertension, pulmonary vasoconstriction, emphysema, chronic obstructive pulmonary disease (COPD), bronchitis, and cancers such as leukemias, lymphomas, carcinomas, and the like, e.g. colon cancer, breast cancer, lung cancer, pancreatic cancer, hepatocellular carcinoma, kidney cancer, melanoma, hepatic metastases, etc., as well as all types of cancers which may metastasize or have metastasized to the lung(s), including breast and prostate cancer. The present agents are also suitable for administration before, during and after other treatments, including radiation, chemotherapy, antibody therapy, phototherapy and cancer, and other types of surgery. The present agent is effectively administered prophylactically and therapeutically in conjunction with other therapies, or by itself for conditions without known therapies or as a substitute for therapies that have significant negative side effects. The oligo(s) may be administered by any means known to a subject, e. g. to the lungs of the subject, more generally through any and all systemic and topical routes. This oligonucleotide(s) (oligo(s)) employed are anti-sense to a target DNA or RNA, e. g. an adenosine receptor DNA or RNA, and preferably consist essentially of up to about 15% adenosine (A), and more preferably contain no adenosine. The oligos are provided in the form of specific compositions and formulations, with a carrier or diluent, and optionally with other therapeutic agents and additives which are used for administration by specific routes, e.g. into the respiratory system, topically, transdermally, parenterally, by implantation, and the like. The oligo is also provided as a capsule or cartridge, and in the form of a kit. The oligos of the invention may be produced by selection of specific targeted segments of the gene or mRNA encoding the adenosine receptor as described below. In one preferred embodiment, the selection is made to obtain oligos that consisting essentially of less than about 15% adenosine (A). This may be done by selecting the target as done above, which includes genes, genomic flanking regions, RNAs and polypeptide associated with an ailment afflicting the lung airways, obtaining the sequence of a mRNA(s) corresponding to the target gene(s) and/or their genomic flanking region(s) and/or the juxta-membrane regions thereof, and mRNA(s) encoding the target polypeptide(s), selecting at least one segment of the mRNA(s), and synthesizing one or more anti-sense oligonucleotide(s) to the selected mRNA segment(s), and substituting, if necessary, an alternative, e. g. a universal base(s) or other base(s) for one or more A to reduce the proportion of A present in the oligonucleotide to less than about 15%, and down to no adenosine. Similarly, alternative and/or universal bases may be substituted for adenosine, e. g. specific

adenosine A1, A2b and A3 receptor antagonists or A2a receptor agonists, theophylline, enprophylline, and many other adenosine receptor antagonists known in the art as well as agonists with significantly reduced agonist activity with respect to adenosine, e. g. less than 0.5%, less than 0.3%, and the like.

5 The invention will now be described in general in conceptual and experimental terms, with reference to specific examples. Other objects, advantages and features of the present invention will become apparent to those skilled in the art from the description that follows.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

10 This invention arose from a desire by the inventor to improve on prior art treatments for pulmonary and other diseases, which technology is generally fraught with detrimental side effects and by the need of administering high doses of therapeutical agents. The present invention arises from the inventor's own discovery that adenosine receptor targeted anti-sense oligonucleotides (oligos) may be utilized therapeutically in the treatment of diseases or conditions which impair respiration, cause inflammation and/or allergy(ies), constrict bronchial tissue, obstruct the lung airways, depletion surfactant secretion, or otherwise impede normal breathing. In general, many diseases and conditions are associated with or cause inflammation, constrict bronchial tissue or the lung airways, depletion secretion of surfactant, augment allergy(ies), or otherwise impede normal breathing. This treatment is selective for specific targets associated with or mediating these symptoms, and the agents are administered in up to 1000-fold lower doses than those seen in the art. The inventor, in addition, wanted to provide a treatment which would improve the outcome and life style of patients undergoing other procedures or being administered other therapies, including antibody therapy, chemotherapy, radiation, phototherapy, and surgery e.g. cancer surgery, and that could be effectively administered preventatively, prophylactically or therapeutically. He reasoned that he could further improve on this discovery by selecting oligos of reduced adenosine content, or reducing the adenosine content of otherwise targeted anti-sense oligos corresponding to endogenous polynucleotide sequences. The present invention is premised on the discovery by the inventor that 15 oligonucleotides are metabolized in vivo to their mononucleotides. Adenosine (A)-containing oligonucleotides break down and release adenosine which, in turn, activates adenosine receptors, thereby causing bronchoconstriction, inflammation, surfactant depletion, allergy(ies), and the like. He, thus, conceived of employing low adenosine-free adenosine oligos to avoid these side effects upon their administration. He succeeded in this endeavor and is providing in this patent novel and improved compositions, formulations and methods which afford greatly improved results when compared with previously known treatments for preventing and alleviating bronchoconstriction, allergy(ies), inflammation, breathing difficulties, surfactant depletion and blockage of airways, as well as for other conditions which affect the lung directly or indirectly. In different embodiments, one or more nucleic acids of the invention may be formulated alone, and/or with one or more surfactant components and/or with a carrier, and/or with other therapeutic agents and/or formulation agents known in the art. The compositions of this invention, thus, may be incorporated into a variety of formulations for systemic and topical administration. Moreover, the inventor also provides a broad method for delivery of anti-sense oligonucleotides (oligos) through the respiratory system, as a fast means of starting treatment to address acute attacks of asthma and other diseases and conditions that have a rapid onset. In addition, the present agents have long half-lives and may be administered at very low doses. This makes them ideal for once a week type therapies. In the past, anti-sense oligonucleotides received considerable theoretical consideration as being potentially useful as pharmacologic agents for the treatment of human disease. Wagner, R., Nature 372: 333-335 (1994). However, it has been difficult to actually apply these molecules to alleviating and curing human diseases. One important consideration in the pharmacologic application of these molecules has been the failure of various routes of administration to deliver the compounds to its target while avoiding invading the circulation and, therefore, other untargeted tissues which, thus, produces a plethora of side effects. Most in vivo experiments utilizing anti-sense oligonucleotides involved a direct application of the oligo to limited regions of the brain. See, Wahlestedt, C., Trends in Pharmacol. Sci. 15: 42-46 (1994); Lai, et al., Neuroreport 5: 1049-1052 (1994); Standifer, K., et al., Neuron 12: 805-810

(1994); Akabayashi, A., et al., Brain Res. 21: 55-61 (1994). Others applied them into the spinal fluid. See, e.g. Tseng, L., et al., European J. Pharmacol. 258: R1-3 (1994); Raffa, R., et al., European J. Pharmacol. 258: R5-7 (1994); Gillardon, F., et al., European J. Neurosci. 6: 880-884 (1994). Such applications, clearly, have no practical clinical utility due to their invasive nature. Thus, the systemic administration of anti-sense oligonucleotides poses significant problems with respect to their pharmacologic application, not the least of which is the difficulty in selectively targeting disease-involved tissues. The systemic administration of anti-sense oligonucleotides also poses significant problems with respect to their pharmacologic application, not the least of which is the difficulty in selectively targeting disease-involved tissues.

The respiratory system, and in particular the lung, as the ultimate port of entry into the organism, however, is an excellent route of administration for anti-sense oligonucleotides. This is so not only for the treatment of lung disease, but also when utilizing the lung as a means for delivery, particularly because of its non-invasive and tissue-specific nature. Thus, local delivery of antisense oligonucleotides directly to the target tissue enables the therapeutic use of these compounds. Fomivirsen (ISIS 2302) is an example of a local drug delivery into the eye to treat cytomegalovirus (CMV) retinitis, for which a new drug application has been filed by ISIS. The administration of a drug through the lung offers the further advantage that inhalation is non-invasive whereas direct injection in to the vitreous of the eye is invasive. The composition and formulations of this invention are highly efficacious for preventing and treating diseases and conditions associated with bronchoconstriction, difficult breathing, impeded and obstructed lung airways, allergy(ies), inflammation and surfactant depletion, among others. Examples of diseases and conditions which are suitably treated by the present method are diseases and conditions, including Acute Respiratory Distress Syndrome (ARDS), asthma, adenosine administration e.g. in the treatment of Supraventricular Tachycardia (SVT) and other arrhythmias, and in stress tests to hyper-sensitized individuals, ischemia, renal damage or failure induced by certain drugs, infantile respiratory distress syndrome, pain, cystic fibrosis, pulmonary hypertension, pulmonary vasoconstriction, emphysema, chronic obstructive pulmonary disease (COPD), lung transplantation rejection, pulmonary infections, and cancers such as leukemias, lymphomas, carcinomas, and the like, including colon cancer, breast cancer, lung cancer, pancreatic cancer, hepatocellular carcinoma, kidney cancer, melanoma, hepatic metastases, etc., as well as all types of cancers which may metastasize or have metastasized to the lung(s), including breast and prostate cancer. The invention will be described with respect to the adenosine receptors as targets, but is similarly applicable to any other target with respect to the pulmonary administration of anti-sense oligos. The examples provided below show a complete inhibition of such adenosine receptor associated symptoms in a rabbit model for human bronchoconstriction, allergy(ies) and inflammation as well as the elimination of the ability of the adenosine receptor agonist par excellence, adenosine, to cause bronchoconstriction in hyper-responsive monkeys, which are animal models for human hyper-responsiveness to adenosine receptor agonists. The pharmaceutical composition and formulations of the invention, therefore, are suitable for preventing and alleviating the symptoms associated with stimulation of adenosine receptors, such as the adenosine A₁ receptors. The compositions and formulations of this invention, thus, are also suitable for prevent the untoward side effects of adenosine-mediated hyperresponsiveness in certain individuals, which are generally seen in diseases affecting respiratory activity.

The method of the present invention may be used to treat airway diseases and conditions in a subject of any kind and for any reason, with the intention that the adenosine content of anti-sense compounds be minimized, reduced or eliminated so as to prevent its liberation upon anti-sense degradation. Examples of diseases and conditions, which may be treated preventatively, prophylactically and therapeutically with the compositions and formulations of this invention, are pulmonary vasoconstriction, inflammation, allergies, asthma, allergic rhinitis, impeded respiration, Acute Respiratory Distress Syndrome (ARDS), renal damage and failure associated with ischemia as well as the administration of certain drugs, side effects associated with adenosine administration e.g. in Supraventricular Tachycardia (SVT) and in adenosine stress tests, infantile Respiratory Distress Syndrome (infantile RDS), ARDS, pain,

cystic fibrosis, pulmonary hypertension, pulmonary vasoconstriction, emphysema, chronic obstructive pulmonary disease (COPD), lung transplantation rejection, pulmonary infections, and cancers such as leukemias, lymphomas, carcinomas, and the like, e.g. colon cancer, breast cancer, lung cancer, pancreatic cancer, hepatocellular carcinoma, kidney cancer, melanoma, metastatic cancer such as hepatic metastases, lung, breast and prostate metastases, among others. The present compositions and formulations are suitable for administration before, during and after other treatments, including radiation, chemotherapy, antibody therapy, phototherapy and cancer, and other types of surgery. The present compositions and formulations may also be administered effectively as a substitute for therapies that have significant negative side effects. The terms "anti-sense" oligonucleotides generally refers to small, synthetic oligonucleotides, resembling single-stranded DNA, which in this patent are applied to the inhibition of gene expression by inhibition of a target messenger RNA (mRNA). See, Milligan, J. F. et al., J. Med. Chem. 36(14), 1923-1937 (1993), the relevant portion of which is hereby incorporated in its entirety by reference. For consistency's sake, all RNAs and oligonucleotides are represented in this patent by a single strand in the 5' to 3' direction, when read from left to right, although their complementary sequence(s) is (are) also encompassed within the four corners of the invention. In addition, all nucleotide bases and amino acids are represented utilizing the recommendations of the IUPAC-IUB Biochemical Nomenclature Commission, or by the known 3-letter code (for amino acids). Nucleotide sequences are presented herein by single strand only, in the 5' to 3' direction, from left to right. In addition, nucleotide and amino acids are represented herein in the manner recommended by the IUPAC-IUB Biochemical Nomenclature Commission, or (for amino acids) by three letter code, in accordance with 37 CFR 1.822 and established usage. See, e.g., PatentIn User Manual, 99-102 (Nov. 1990) (U.S. Patent and Trademark Office, Office of the Assistant Commissioner for Patents, Washington, D.C. 20231); U.S. Patent No. 4,871,670 to Hudson et al. at col. 3, lines 20-43. The present method utilizes anti-sense agents to inhibit or down-regulate gene expression of target genes, including those listed in Tables 1 and 2 below. This is generally attained by hybridization of the anti-sense oligonucleotides to coding (sense) sequences of a targeted messenger RNA (mRNA), as is known in the art. The exogenously administered agents of the invention decrease the levels of mRNA and protein encoded by the target gene and/or cause changes in the growth characteristics or shapes of the thus treated cells. See, Milligan et al. (1993); Helene, C. and Toulme, J. Biochim. Biophys. Acta 1049, 99-125 (1990); Cohen, J. S. D., Ed., Oligodeoxynucleotides as Anti-sense Inhibitors of Gene Expression; CRC Press: Boca Raton, FL (1987), the relevant portion of which is hereby incorporated in its entirety by reference. As used herein, "anti-sense oligonucleotide or anti-sense oligo" is generally a short sequence of synthetic nucleotide that (1) hybridizes to any segment of a mRNA encoding a targeted protein under appropriate hybridization conditions, and which (2) upon hybridization causes a decrease in gene expression of the targeted protein. The terms "desAdenosine" (desA) and "des-thymidine" (desT) refer to oligonucleotides substantially lacking either adenosine (desA) or thymidine (desT). In some instances, the des A or des T sequences are naturally occurring, and in others they may result from substitution of an undesirable nucleotide (A) by another lacking its undesirable activity, such as acting as an agonist or having a triggering effect at the adenosine A receptor(s). In the present context, the substitution is generally accomplished by substitution of A with a "universal or alternative base", presently known in the art or to be ascertained at a later time. As used herein, the terms "prevent", "preventing", "treat" or "treating" refer to a preventative, prophylactic, maintenance, or therapeutic treatment which decreases the likelihood that the subject administered such treatment will manifest symptoms associated with adenosine receptor stimulation. The term "down-regulate" refers to inducing a decrease in production, secretion or availability and, thus, a decrease in concentration, of intracellular target product, be it a receptor e. g. adenosine A₁, A_{2b}, A₃, bradykinin 2B, GATA-3, or other receptors, or an increase in concentration of the adenosine A_{2a} receptor. The present technology relies on the design of anti-sense oligos targeted to mRNAs associated with ailments involving lung airway pathology(ies), and on their modification to reduce the occurrence of undesirable side effects caused by their release of adenosine upon breakdown, while preserving their activity and efficacy for their intended purpose. In this manner, the inventor targets a specific gene to

design one or more anti-sense oligonucleotide(s) (oligos) that selectively bind(s) to the corresponding mRNA, and then reduces, if necessary, their content of adenosine via substitution with an alternative or a universal base, or an adenosine analog incapable of significantly, or having substantially reduced ability for, activating or antagonizing adenosine A₁, A_{2b} or A₃ receptors or which may act as an agonist at the adenosine A_{2a} receptor. Any number of adenosines present may be substituted by an alternative and/or universal base, such as heteroaromatic bases, which binds to a thymidine base but has less than about 0.3 of the adenosine base agonist or antagonist activity at the adenosine A₁, A_{2a}, A_{2b} and A₃ receptors. Based on his prior experience in the field, the inventor reasoned that in addition to "downregulating" specific genes, he could increase the effect of the agent(s) administered by either selecting segments of RNA that are devoid, or have a low content, of thymidine (T) or, alternatively, substitute one or more adenosine(s) present in the designed oligonucleotide(s) with other nucleotide bases, so called universal bases, which bind to thymidine but lack the ability to activate adenosine receptors and otherwise exercise the constricting effect of adenosine in the lungs, etc. Given that adenosine (A) is a nucleotide base complementary to thymidine (T), when a T appears in the RNA, the anti-sense oligo will have an A at the same position.

In one aspect of this invention, the anti-sense oligonucleotide has a sequence which specifically binds to a portion or segment of a mRNA molecule which encodes a protein associated with impeded breathing, allergy(ies), lung inflammation, depletion of lung surfactant or lowering of lung surfactant, airway obstruction, bronchitis, and the like. One effect of this binding is to reduce or even prevent the translation of the corresponding mRNA and, thereby, reduce the available amount of target protein in the subject's lung. In one preferred embodiment of this invention, the phosphodiester residues of the anti-sense oligonucleotide are modified or substituted. Chemical analogs of oligonucleotides with modified or substituted phosphodiester residues, e.g., to the methylphosphonate, the phosphotriester, the phosphorothioate, the phosphorodithioate, or the phosphoramidate, α -methoxy ethyl and similar modifications, which increase the in vivo stability of the oligonucleotide are particularly preferred. The naturally occurring phosphodiester linkages of oligonucleotides are susceptible to some degree of degradation by cellular nucleases. Many of the residues proposed herein, on the contrary, are highly resistant to nuclease degradation. See, Milligan et al.; Cohen, J. S. D., supra. In another preferred embodiment of the invention, the oligonucleotides may be protected from degradation by adding a "3'-end cap" by which nuclease-resistant linkages are substituted for phosphodiester linkages at the 3' end of the oligonucleotide. See Tidd, D. M. and Warenus, H.M., *Be. J. Cancer* 60: 343-350 (1989); Shaw, J.P. et al., *Nucleic Acids Res.* 19: 747-750 (1991), the relevant section of which are incorporated in their entireties herein by reference. Phosphoramidates, phosphorothioates, and methylphosphonate linkages all function adequately in this manner for the purposes of this invention, as do α' modifications, such as α' methoxy ethyl, and the like. The more extensive the modification of the phosphodiester backbone the more stable the resulting agent, and in many instances the higher their RNA affinity and cellular permeation. See, Milligan, et al., supra. In addition, a plurality of substitutions to the carbohydrate ring are also known to improve stability of nucleic acids. Thus, the number of residues which may be modified or substituted will vary depending on the need, target, and route of administration, and may be from 1 to all the residues, to any number in between. Many different methods for replacing the entire phosphodiester backbone with novel linkages are known. See, Millikan et al, supra. Preferred backbone analogue residues include phosphoramidate, phosphorothioate, methylphosphonate, phosphotriester, phosphotriester, thioformacetal, phosphorodithioate, phosphoramidate, formacetal, triformacetal, thioether, carbamate, boranophosphate, 3'-thioformacetal, 5'-thioether, carbonate, C₅-substituted nucleotides, 5'-N-carbamate, sulfate, sulfonate, sulfamate, sulfonamide, sulfone, sulfite, 2'-O methyl, sulfoxide, sulfide, hydroxylamine, methylene(methylimino) (MMI), methoxymethyl (MOM), and methoxyethyl(MOE), and methyleneoxy(methylimino) (MOMI) residues, and combinations thereof. Phosphorothioate and methylphosphonate-modified oligonucleotides are particularly preferred due to their availability through automated oligonucleotide synthesis. See, Millikan et al, supra. Where appropriate, the agent of this

invention may be administered in the form of their pharmaceutically acceptable salts, or as a mixture of the anti-sense oligonucleotide and its salt. In another embodiment of this invention, a mixture of different anti-sense oligonucleotides or their pharmaceutically acceptable salts is administered. A single agent of this invention has the capacity to attenuate the expression of a target mRNA and/or various agents to enhance or attenuate the activity of a pathway. By means of example, the present method may be practiced by identifying all possible deoxyribonucleotide segments which are low in thymidine (T) or deoxynucleotide segments low in adenosine (A) of about 7 or more mononucleotides, preferably up to about 60 mononucleotides, more preferably about 10 to about 36 mononucleotides, and still more preferably about 12 to about 21 mononucleotides, in a target mRNA or a gene, respectively. This may be attained by searching for mononucleotide segments within a target sequence which are low in, or lack thymidine (RNA), a nucleotide which is complementary to adenosine, or that are low in adenosine (gene), that are 7 or more nucleotides long. In most cases, this search typically results in about 10 to 30 such sequences, i.e. naturally lacking or having less than about 40% adenosine, anti-sense oligonucleotides of varying lengths for a typical target mRNA of average length, i.e., about 1800 nucleotides long. Those with high content of T or A, respectively, may be fixed by substitution of a universal base for one or more As. The agent(s) of this invention may be of any suitable length, including but not limited to, about 7 to about 60 nucleotides long, preferably about 12 to about 45, more preferably up to about 30 nucleotides long, and still more preferably up to about 21, although they may be of other lengths as well, depending on the particular target and the mode of delivery. The agent(s) of the invention may be directed to any and all segments of a target RNA. One preferred group of agent(s) includes those directed to an mRNA region containing a junction between an intron and an exon. Where the agent is directed to an intron/exon junction, it may either entirely overlie the junction or it may be sufficiently close to the junction to inhibit the splicing-out of the intervening exon during processing of precursor mRNA to mature mRNA, e.g. with the 3' or 5' terminus of the anti-sense oligonucleotide being positioned within about, for example, within about 2 to 10, preferably about 3 to 5, nucleotide of the intron/exon junction. Also preferred are anti-sense oligonucleotides which overlap the initiation codon, and those near the 5' and 3' termini of the coding region. The flanking regions of the exons may also be targeted as well as the spliced segments in the precursor mRNAs. The mRNA sequences of the adenosine receptors and of many other targets are derived from the DNA base sequence of the gene expressing either receptors, e.g. the adenosine receptors, the enzymes, factors, or other targets associated with airway disease. For example, the sequence of the genomic human A₁ adenosine receptor is known and is disclosed in U.S. Patent No. 5,320,963 to Stiles, G., et al. The A₃ adenosine receptor has been cloned, sequenced and expressed in rat (see, Zhou, F., et al., P.N.A.S. (USA) 89: 7432 (1992)) and human (see, Jacobson, M. A., et al., U.K. Patent Application No. 9304582.1 (1993)). The sequence of the adenosine A_{2b} receptor gene is also known. See, Salvatore, C. A., Luneau, C. J., Johnson, R. G. and Jacobson, M., Genomics (1995), the relevant portion of which is hereby incorporated in its entirety by reference. The sequences of many of the remaining exemplary target genes are also known. See, GenBank, NIH. The sequences of those genes whose sequences are not yet available may be obtained by isolating the target segments applying technology known in the art. Once the sequence of the gene, its RNA and/or the protein are known, an anti-sense oligonucleotides may be produced according to this invention as described above to reduce the production of the targeted protein in accordance with standard techniques. The sequences for the adenosine A_{2a} bradykinin, and other genes as well as methods for preparation of oligonucleotides are also known as those of many other target genes and mRNAs for which this invention is suitable. Thus, anti-sense oligonucleotides that downregulate the production of target sequences associated with airway disease, including the adenosine A₁, A_{2a}, A_{2b}, A₃, bradykinin, GATA-3, COX-2, and many other receptors, may be produced in accordance with standard techniques. Examples of diseases and conditions which are suitably treated by the present method are diseases and conditions, including Acute Respiratory Distress Syndrome (ARDS), asthma, adenosine administration e.g. in the treatment of SupraVentricular Tachycardia (SVT) and other arrhythmias, and in stress tests to hyper-sensitized individuals, ischemia, renal damage or failure induced by certain drugs, infantile respiratory distress

syndrome, pain, cystic fibrosis, pulmonary hypertension, pulmonary vasoconstriction, emphysema, chronic obstructive pulmonary disease (COPD), pulmonary transplantation rejection, pulmonary infections, and cancers such as leukemias, lymphomas, carcinomas, and the like, including colon cancer, breast cancer, lung cancer, pancreatic cancer, hepatocellular carcinoma, kidney cancer, melanoma, hepatic metastases, etc., as well as all types of cancers which may metastasize or have metastasized to the lung(s), including breast and prostate cancer.

The adenosine receptors discussed above are mere examples of the high power of the inventor's technology. In fact, a large number of genes may be targeted in a similar manner by the present agent(s), to reduce or down-regulate protein expression. By means of example, if the target disease or condition is one associated with impeded or reduced breathing, bronchoconstriction, chronic bronchitis, pulmonary bronchoconstriction and/or hypertension, chronic obstructive pulmonary disease (COPD), pulmonary transplantation rejection, pulmonary infections, allergy, asthma, cystic fibrosis, respiratory distress syndrome, cancers, which either directly or by metastasis afflict the lung, the present method may be applied to a list of potential target mRNAs, which includes the targets listed in Table 1 and Table 2 below, among others. The anti-sense agent(s) of the invention have a low A content to prevent its liberation upon in vivo degradation of the agent(s). For example, if the system is the pulmonary or respiratory system, a large number of genes is involved in different functions, including those listed in Table 1 below.

Table 1: Pulmonary Disease or Condition Pulmonary and Inflammation Targets

Nf6B Transcription Factor	Interleukin-8 Receptor (IL-8 R)
Interleukin-5 Receptor (IL-5R)	Interleukin-4 Receptor (IL-4R)
Interleukin-3 Receptor (IL-3R)	Interleukin-1 β (IL-1 β)
Interleukin-1 β Receptor (IL-1 β R)	Eotaxin
Tryptase	Major Basic Protein
β 2-adrenergic Receptor Kinase	Endothelin Receptor A
Endothelin Receptor B	Preproendothelin
Bradykinin B2 Receptor (B2BR)	IgE (High Affinity Receptor)
Interleukin-1 (IL-1)	Interleukin 1 Receptor (IL-1 R)
Interleukin-9 (IL-9)	Interleukin-9 Receptor (IL-9 R)
Interleukin-11 (IL-11)	Interleukin-11 Receptor (IL-11 R)
Inducible Nitric Oxide Synthase	Cyclooxygenase (COX)
Intracellular Adhesion Molecule 1 (ICAM-1)	Vascular Cellular Adhesion Molecule (VCAM)
Substance P	Endothelial Leukocyte Adhesion Molecule Endothelin ETA
Rantes	(ELAM-1)
Receptor	GM-CSF, Endothelin-1
Cyclooxygenase-2 (COX-2)	Neutrophil Chemotactic Factor
Monocyte Activating Factor	Defensin 1,2,3
Neutrophil Elastase	Platelet Activating Factor
Muscarinic Acetylcholine Receptors	5-lipoxygenase
Tumor Necrosis Factor α	Substance P
Phosphodiesterase IV	Histamine Receptor
Substance P Receptor	CCR-1 CC Chemokine Receptor
Chymase	Interleukin-4 (IL-4)
Interleukin-2 (IL-2)	Interleukin-5 (IL-5)
Interleukin-12 (IL-12)	Interleukin-7 (IL-7)
Interleukin-6 (IL-6)	Interleukin-12 Receptor (IL-12R)
Interleukin-8 (IL-8)	Interleukin-1 (IL-1)
Interleukin-7 Receptor (IL-7R)	Interleukin-14
Interleukin-14 Receptor (IL-14R)	CCR-3 CC Chemokine Receptor
CCR-2 CC Chemokine Receptor	CCR-5 CC Chemokine Receptor
CCR-4 CC Chemokine Receptor	GATA-3 Transcription Factor
Prostanoid Receptors	MAP Kinase
Neutrophil Adherence Receptor	Interleukin-15 Receptor (IL-15R)
Interleukin-15 (IL-15)	

	Interleukin-11 (IL-11)	Interleukin-11 Receptor (IL-11R)
	NFAT Transcription Factors	STAT 4
	MIP-1 α	MCP-2
	MCP-3	MCP-4
5	Cyclophilin (A, B, ϵ etc.)	Phospholipase A2
	Basic Fibroblast Growth Factor	Metalloproteinase
	CSBP/p38 MAP Kinase	Tryptase Receptor
	PDG2	Interleukin-3 (IL-3)
	Interleukin-10 (IL-10)	Cyclosporin A - Binding Protein
10	FK506-Binding Protein	α 4 β 1 Selectin
	Fibronectin	α 4 β 7 Selectin

Table 1: Pulmonary Disease or Condition Pulmonary and Inflammation Targets

	cMad CAM-1	LFA-1 (CD11a/CD18)
	PECAM-1	LFA-1 Selectin
15	C3bi	PSGL-1
	E-Selectin	P-Selectin
	CD-34	L-Selectin
	p150,95	Mac-1 (CD11b/CD18)
	Fucosyl transferase	VLA-4
20	STAT-1	STAT-2
	CD-18/CD11a	CD11b/CD18
	ICAM2 and ICAM3	C5a
	CCR3 (Eotaxin Receptor)	CCR1, CCR2, CCR4, CCR5
	LTB-4	AP-1 Transcription Factor
25	Protein kinase C	Cysteinyl Leukotriene Receptor
	Tachykinin Receptors (tach R)	I6B Kinase 1 & 2
	Interleukin-2 Receptor (IL-2R)	(e.g., Substance P, NK-1 & NK-3 Receptors)
	STAT 6	c-mas
	NF-Interleukin-6 (NF-IL-6)	Interleukin-10 Receptor (IL-10R)
30	Interleukin-3 (IL-3)	Interleukin-2 Receptor (IL-2R)
	Interleukin-13 (IL-13)	Interleukin-12 Receptor (IL-12R)
	Interleukin-14 (IL-14)	Interleukin-6 Receptor (IL-6R)
	Interleukin-16 (IL-16)	Interleukin-13 Receptor (IL-13R)
	Medullasin	Interleukin-16 Receptor (IL-16R)
35	Adenosine A ₁ Receptor (A ₁ R)	Tryptase-I
	Adenosine A _{2b} Receptor (A _{2b} R)	Adenosine A ₃ Receptor (A ₃ R)
	β Tryptase	STAT-3
	Adenosine A _{2a} Receptor (A _{2a} R)	IgE Receptor β Subunit (IgE R β)
	Fc-epsilon receptor CD23 antigen	IgE Receptor α Subunit (IgE R α)
40	IgE Receptor Fc Epsilon Receptor (IgERFc ϵ R)	Substance P Receptor
	Histidine decarboxylase	Tryptase-1
	Prostaglandin D Synthase	Eosinophil Cationic Protein
	Eosinophil Derived Neurotoxin	Eosinophil Peroxidase
	Endothelial Nitric Oxide Synthase	Endothelial Monocyte Activating Factor
45	Neutrophil Oxidase Factor	Cathepsin G
	Macrophage Inflammatory Protein-1-Alpha/Rantes Receptor	Interleukin-8 Receptor α Subunit (IL-8 R α)
		Endothelin Receptor ET-B

These genes, and others, are involved in the normal functioning of respiration as well as in diseases associated with respiratory pathologies, including cystic fibrosis, asthma, pulmonary hypertension and vasoconstriction, chronic obstructive pulmonary disease (COPD), pulmonary transplantation rejection, pulmonary infections, chronic bronchitis, respiratory distress syndrome (ARDS), allergic rhinitis, lung cancer and lung metastatic cancers and other airway diseases, including those with inflammatory response.

Anti-sense oligos to the target receptors, e. g. the adenosine A₁, A_{2a}, A_{2b}, and A₃ receptors, CCR3 (chemokine receptors), bradykinin 2B, CAM (vascular cell adhesion molecule), and eosinophil receptors,

among others, have been shown to be effective in down-regulating the expression of their genes. Some of these act to alleviate the symptoms or reduce respiratory ailments and/or inflammation, for example, by "down regulation" of the adenosine A₁, A_{2a}, A_{2b}, and/or A₃ receptors and CCR3, bradykinin 2B, VCAM (vascular cell adhesion molecule) and eosinophil receptors. These agents may be utilized by the present method alone or in conjunction with anti-sense oligos targeted to other genes to validate pathway and/or networks in which they are involved. For better results, the oligos are preferably administered directly into the respiratory system, e.g., by inhalation or other means, of the experimental animal, so that they may reach the lungs without widespread systemic dissemination. This permits the use of low agent doses as compared with those administered systemically or by other generalized routes and, consequently, reduces the number and degree of undesirable side effects resulting from the agent's widespread distribution in the body. The agent(s) of this invention has (have) been shown to reduce the amount of receptor protein expressed by the tissue. These agents, thus, rather than merely interacting with their targets, e.g. a receptor, lower the number of target proteins that other drugs may interact with. In this manner, the present agent(s) afford(s) extremely high efficacy with low toxicity. Anti-sense oligonucleotides to the A₁, A_{2b}, A₃, bradykinin B2, GATA-3, CAM (vascular cell adhesion molecule), eosinophil receptors, and COX-2 receptors, among others, have been shown to be effective in the down-regulation of the respective receptor proteins in the cell. One novel feature of this treatment, as compared to traditional treatments for adenosine-mediated bronchoconstriction, is that administration is direct to the lungs, or in situ to other tissues, organs or systems of the body. Additionally, a receptor protein itself is reduced in amount, rather than merely interacting with a drug, and toxicity is reduced. Other proteins that may be targeted with anti-sense agents for the treatment of lung conditions include, but are not limited to: CCR3 (chemokine) receptors, human A₂, adenosine receptor, human A_{2b} adenosine receptor, human IgE receptor β , human Fc-epsilon receptor CD23 antigen, human histidine decarboxylase, human beta tryptase, human tryptase-I, human prostaglandin D synthase, human cyclooxygenase-2, human eosinophil cationic protein, human eosinophil derived neurotoxin, human eosinophil peroxidase, human intercellular adhesion molecule-1 (ICAM-1), human vascular cell adhesion molecule-1 (VCAM-1), human endothelial leukocyte adhesion molecule-1 (ELAM 1), human P selectin, human endothelial monocyte activating factor, human IL-3, human IL-4, human IL-5, human IL-6, human IL-8, human monocyte-derived neutrophil chemotactic factor, human neutrophil elastase, human neutrophil oxidase factor, human cathepsin G, human defensin 1, human defensin 3, human macrophage inflammatory protein-1-alpha, human muscarinic acetylcholine receptor HM3, human fibronectin, human GM-CSF, human tumor necrosis factor α , human leukotriene C4 synthase, human major basic protein, and human endothelin 1. Although not intended to be exclusive, a more extensive list of genes is provided below. Some of these act to alleviate the symptoms or reduce respiratory ailments and/or inflammation, for example, by "down regulation" of the adenosine A₁, A_{2a}, A_{2b}, and/or A₃ receptors and CCR3, bradykinin 2B, VCAM (vascular cell adhesion molecule) and eosinophil receptors. These agents are preferably administered directly into the respiratory system, e.g., by inhalation or other means, so that they may reach the lungs without widespread systemic dissemination. This permits the use of substantially lower doses of the agent of the invention as compared with those administered by the prior art, systemically or by other generalized routes and, consequently, reduce undesirable side effects resulting from the agent's widespread distribution in the body. The agent(s) of this invention has (have) been shown to reduce the amount of receptor protein expressed by the tissue. These agents, thus, rather than merely interacting with their targets, e.g. a receptor, lower the number of target proteins that other drugs may interact with. In this manner, the present agent(s) afford(s) extremely high efficacy with low toxicity. In these latter targets, and in target genes in general, it is particularly imperative to eliminate or reduce the adenosine content of the corresponding anti-sense oligonucleotide to prevent their breakdown products from liberating adenosine.

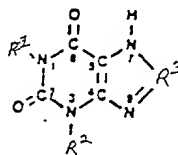
As used herein, the term "treat" or "treating" asthma refers to a treatment which decreases the likelihood that the subject administered such treatment will manifest symptoms of the lung disease. The term "downregulate" refers to inducing a decrease in production, secretion or availability (and thus a

004040 "649E4560

decrease in concentration) of the targeted intracellular protein. The present invention is concerned primarily with the treatment of human subjects. However, the agents and methods disclosed here may also be employed for veterinary purposes, such as is the case in the treatment of other mammals, such as cattle, horses, wild animals, zoo animals, and domestic animals, e. g. dogs and cats. Targeted proteins are preferably mammalian and more preferably of the same species as the subject being treated. In general, "anti-sense" refers to the use of small, synthetic oligonucleotides, resembling single-stranded DNA, to inhibit gene expression by inhibiting the function of the target messenger RNA (mRNA). Milligan, J. F. et al., *J. Med. Chem.* 35(14), 1923-1937 (1993). In the present invention, inhibition of gene expression of the A₁ or A₃ adenosine receptor is desired. Gene expression is inhibited through hybridization to coding (sense) sequences in a specific messenger RNA (mRNA) target by hydrogen bonding according to Watson-Crick base pairing rules. The mechanism of anti-sense inhibition is that the exogenously applied oligonucleotides decrease the mRNA and protein levels of the target gene or cause changes in the growth characteristics or shapes of the cells. Id. See, also Helene, C. and Toulme, J., *Biochim. Biophys. Acta* 1049, 99-125 (1990); Cohen, J. S. D., Ed., *Oligodeoxynucleotides as Anti-sense Inhibitors of Gene Expression*; CRC Press: Boca Raton, FL (1987). As used herein, "anti-sense oligonucleotide" is defined as a short sequence of synthetic nucleotide that (1) hybridizes to any coding sequence in an mRNA which codes for the targeted protein, according to hybridization conditions described below, and (2) upon hybridization causes a decrease in gene expression of the A₁ or A₃ adenosine receptor. The receptors discussed above are mere examples of the high power of the present technology. In fact, a large number of genes may be targeted in a similar manner by practicing the present methods, to significantly down-regulate or obliterate protein expression and observe any changes wrought to one or more functions within a system, e.g. the respiratory system and other lung disease associated targets. By means of example, in the respiratory system, the targets may be associated with difficulties of breathing, bronchoconstriction, inflammation, allergic rhinitis, chronic bronchitis, surfactant depletion, and others associated with diseases and conditions such as chronic obstructive pulmonary disease (COPD), pulmonary transplantation rejection, pulmonary infections, inhalation burns, Acute Respiratory Distress Syndrome (ARDS), cystic fibrosis, pulmonary fibrosis, radiation pneumonitis, tonsillitis, emphysema, dental pain, oral inflammation, joint pain, esophagitis, cancers afflicting the respiratory system either directly such as lung cancer, esophageal cancer, and the like, or indirectly by means of metastases, among others. These functions are of great interest because of their association with respiratory dysfunction, as is the case in asthma, allergies, allergic rhinitis, pulmonary bronchoconstriction and hypertension, chronic obstructive pulmonary disease (COPD), pulmonary transplantation rejection, pulmonary infections, allergy, asthma, cystic fibrosis (CF), Acute Respiratory Distress Syndrome (ARDS) as well as infantile and pregnancy-related RDS, cancer, etc., which either directly or by metastasis afflict the lung, the present anti-sense oligonucleotides may be directed to a list of target mRNAs, which includes the targets listed in Table 1 above, among others.

The oligos of this invention may be obtained by first selecting fragments of a target nucleic acid having at least 4 contiguous nucleic acids selected from the group consisting of G and C and/or having a specific type and/or extent of activity, and then obtaining a first oligonucleotide 4 to 60 nucleotides long which comprises the selected fragment and has a thymidine (T) nucleic acid content of up to and including about 15%, preferably, about 12%, about 10%, about 7%, about 5%, about 3%, about 1%, and more preferably no thymidine. The latter step may be conducted by obtaining a second oligonucleotide 4 to 60 nucleotides long comprising a sequence which is anti-sense to the selected fragment, the second oligonucleotide having an adenosine base content of up to and including about 15%, preferably about 12%, about 10%, about 7%, about 5%, about 3%, about 1%, and more preferably no adenosine. When the selected fragment comprises at least one thymidine base, an adenosine base may be substituted in the corresponding anti-sense nucleotide fragment with a universal base selected from the group consisting of heteroaromatic bases which bind to a thymidine base but have less than about 10%, preferably less than about 1%, and more preferably less than about 0.3% of the adenosine base agonist activity at the adenosine A₁, A_{2a}, A_{2b} and A₃ receptors, and heteroaromatic bases which have no activity at the adenosine

A_{2a} receptor, when validating in the respiratory system. Other adenosine activities in other systems may be determined in other systems, as appropriate. The analogue heteroaromatic bases may be selected from all pyrimidines and purines, which may be substituted by O, halo, NH₂, SH, SO, SO₂, SO₃, COOH and branched and fused primary and secondary amino, alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, alkoxy, alkenoxy, acyl, cycloacyl, arylacyl, alkynoxy, cycloalkoxy, aroyl, arylthio, arylsulfoxyl, halocycloalkyl, alkylcycloalkyl, alkenylcycloalkyl, alkynylcycloalkyl, haloaryl, alkylaryl, alkenylaryl, alkynyl aryl, arylalkyl, arylalkenyl, arylalkynyl, arylcycloalkyl, which may be further substituted by O, halo, NH₂, primary, secondary and tertiary amine, SH, SO, SO₂, SO₃, cycloalkyl, heterocycloalkyl and heteroaryl. The pyrimidines and purines may be substituted at all positions as is known in the art, but preferred are those which are substituted at positions 1, 2, 3, 4, 7 and/or 8. More preferred are pyrimidines and purines such as theophylline, caffeine, dyphylline, etophylline, acephylline piperazine, bamifylline, enprofylline and xantine having the chemical formula



wherein R¹ and R² are independently H, alkyl, alkenyl or alkynyl and R³ is H, aryl, dicycloalkyl, dicycloalkenyl, dicycloalkynyl, cycloalkyl, cycloalkenyl, cycloalkynyl, O-cycloalkyl, O-cycloalkenyl, O-cycloalkynyl, NH₂-alkylamino-ketoxyalkyloxy-aryl, mono and dialkylaminoalkyl-N-alkylamino-SO₂aryl, among others. Similar modifications in the sugar are also embodiments of this invention. Reduced adenosine content of the anti-sense oligos corresponding to the thymidines (T) present in the target RNA serves to prevent the breakdown of the oligos into products that free adenosine into the system, e.g. the lung, brain, heart, kidney, etc., tissue environment and, thereby, to prevent any unwanted effects due to it. By means of example, the NF6B transcription factor may be selected as a target, and its mRNA or DNA searched for low thymidine (T) or desthymidine (desT) fragments. Only desT segments of the mRNA or DNA are selected which, in turn, will produce desA anti-sense as their complementary strand. When a number of RNA desT segments are found, the sequence of the anti-sense segments may be deduced. Typically, about 10 to 30 and even larger numbers of desA anti-sense sequences may be obtained. These anti-sense sequences may include some or all desA anti-sense oligonucleotide sequences corresponding to desT segments of the mRNA of the target, such as anyone of those shown in Table 1 above, in Table 2 below, and others associated with functions of the brain, cardiovascular and renal systems, and many others. When this occurs, the anti-sense oligonucleotides found are said to be 100% A-free. For each of the original desA anti-sense oligonucleotide sequences corresponding to the target gene, e.g. the NF6B transcription factor, typically about 10 to 30 sequences may be found within the target gene or RNA which have a low content of thymidine (RNA). In accordance with this invention, the selected fragment sequences may also contain a small number of thymidine (RNA) nucleotides within the secondary or tertiary or quaternary sequences. In some cases, a large adenosine content may suffice to render the anti-sense oligonucleotides less active or even inactive against the target. In accordance with this invention, these so called "non-fully desA" sequences may preferably have a content of adenosine of less than about 15%, about 12%, about 10%, about 7%, about 5%, and about 2% adenosine. Most preferred is no adenosine content (0%). In some instances, however, a higher content of adenosine is acceptable and the oligonucleotides still fail to show detrimental "adenosine activity". A particular important embodiment is that where the adenosine nucleotide is "fixed" or replaced by a "Universal or alternative" base that may base-pair with similar or equal affinity to two or more of the four nucleotide present in natural DNA: A, G, C, and T.

A universal or alternative base is defined in this patent as any compound, more commonly an

adenosine analogue, which has substantial capacity to hybridize to thymidine, while at the same time having reduced, or substantially lacking, ability to bind adenosine receptors or other molecules through which adenosine may exert an undesirable side effect in the experimental animal or in a cell system. Alternatively, adenosine analogs which completely fail to activate, or have significantly reduce ability for activating, adenosine receptors, such as the adenosine A₁, A_{2b} and/or A₃ receptors, most preferably A₁ receptors, and those that may even act as agonists of the adenosine A_{2a} receptor, may be used. One example of a universal base is α -deoxyribofuranosyl-(5-nitroindole), and an artisan will know how to select others. This "fixing" step generates further novel sequences, different from those anti-sense to the ones found in nature, that permits the anti-sense oligonucleotide to bind, preferably equally well, with the target RNA. Other examples of universal or alternative bases are 2-deoxyribosyl-(5-nitroindole). Other examples of universal bases are 3 - nitropyrrole - 2' - deoxynucleoside, 5 - nitro-indole, 2 - deoxyribosyl - (5 - nitroindole), 2-deoxyribofuranosyl - (5-nitroindole), 2' - deoxyinosine, 2' -deoxynebularine, 6H, 8H-3,4-dihydropyrimido [4, 5 - c] oxazine - 7 - one and 2 - amino - 6 -methoxy aminopurine. In addition to the above, Universal bases which may be substituted for any other base although with somewhat reduced hybridization potential, include 3 - nitropyrrole 2' - deoxynucleoside 2 - deoxyribofuranosyl - (5 - nitroindole), 2' - deoxyinosine and 2' - deoxynebularine (Glen Research, Sterling, VA). More specific mismatch repairs may be made using "P" nucleotide, 6H, 8H - 3, 4 - dihydropyrimido [4,5 - c] [1, 2] oxazin - 7 - one, which base pairs with either guanine (G) or adenine (A) and "K" nucleotide, 2 - amino - 6 - methoxyaminopurine, which base pairs with either cytidine (C) or thymidine (T), among others. Others which are known in the art or will become available are also suitable. See, for example, Loakes, D. and Brown, D. M., Nucl. Acids Res. 22:4039-4043 (1994); Ohtsuka, E. et al., J. Biol. Chem.260(5):2605-2608 (1985); Lin, P.K.T. and Brown, D. M., Nucleic Acids Res. 20(19):5149-5152 (1992); Nichols, R. et al., Nature 369(6480): 492-493 (1994); Rahmon, M. S. and Humayun, N. Z., Mutation Research 377 (2): 263-8 (1997); Amosova, O., et al., Nucleic Acids Res. 25 (10): 1930-1934 (1997); Loakes D. & Brown, D. M., Nucleic Acids Res. 22 (20): 4039-4043 (1994), the entire sections relating to universal bases and their preparation and use in nucleic acid binding being incorporated herein by reference. When non-fully desT sequences are found in the naturally occurring target, they typically are selected so that about 1 to 3 universal base substitutions will suffice to obtain a 100% "desA" anti-sense oligonucleotide. Thus, the present method provides either anti-sense oligonucleotides to different targets which are low in, or devoid of, A content, as well as anti-sense oligonucleotides where one or more adenosine nucleotides, e. g. about 1 to 3, or more, may be "fixed" by replacement with a "Universal" or "replacement" base. Universal bases are known in the art and need not be listed herein. An artisan will know which bases may act as universal bases, and replace them for A. Table 2 below provides a selected number of targets to which the agents of the invention are effectively applied. Others, however, may also be targeted.

Table 2: Cancer Targets

Transforming Oncogenes	Therapy Targets
ras	thymidylate synthetase
src	thymidylate synthetase
myc	dihydrofolate reductase
bcl 2	thymidine kinase
	deoxycytidine kinase
	ribonucleotide reductase
Angiogenesis factors	Adhesion Molecules
Oncogenes	Folate Pathway Enzymes
DNA repair genes	(One Carbon Pool)
	Telomerase
	HMG CoA Reductase
	Farnesyl Transferase
	Glucose-6-Phosphate Transferase

A group of preferred targets for the treatment of cancer are genes associated with any of different types of cancers, or those generally known to be associated with malignancies, whether they are regulatory or involved in the production of RNA and/or proteins. Examples are transforming oncogenes, including, but not limited to, ras, src, myc, and BCL-2, among others. Other targets are those to which present cancer chemotherapeutic agents are directed to, such as various enzymes, primarily, although not exclusively, thymidylate synthetase, dihydrofolate reductase, thymidine kinase, deoxycytidine kinase, ribonucleotide reductase, and the like. The present technology is particularly useful in the treatment of cancer ailments given that traditional cancer therapies are fraught with the unresolved problem of selectively killing cancer cells while preserving normal living cells from the devastating effects of treatments such as chemotherapy, radiotherapy, and the like. The present technology provides the ability of selectively attenuating or enhancing a desired pathway or target. This approach provides a significant advantage over standard treatments of cancer because it permits the selection of a pathway, including primary, secondary and possibly tertiary targets, which are not generally expressed simultaneously in normal cells. Thus, the present agent may be administered to a subject to cause a selective increase in toxicity within tumor cells that, for instance, express all three targets while normal cells that may express only one or two of the targets will be significantly less affected or even spared. A group of preferred targets for the treatment of cancers are genes associated with different types of cancers, or those generally known to be associated with malignancies, whether they are regulatory or involved in the production of RNA and/or proteins. Examples are transforming oncogenes, including, but not limited to, ras, src, myc, and BCL-2, among others. Other targets are those to which present cancer chemotherapeutic agents are directed to, such as various enzymes, primarily, although not exclusively, thymidylate synthetase, dihydrofolate reductase, thymidine kinase, deoxycytidine kinase, ribonucleotide reductase, and the like.

In one embodiment, at least one of the mRNAs to which the oligo of the invention is targeted encodes a protein such as transcription factors, stimulating and activating factors, intracellular and extracellular receptors and peptide transmitters in general, interleukins, interleukin receptors, chemokines, chemokine receptors, endogenously produced specific and non-specific enzymes, immunoglobulins, antibody receptors, central nervous system (CNS) and peripheral nervous and non-nervous system receptors, CNS and peripheral nervous and non-nervous system peptide transmitters, adhesion molecules, defensins, growth factors, vasoactive peptides and receptors, and binding proteins, among others; or the mRNA is corresponding to an oncogene and other genes associated with various diseases or conditions. Examples of target proteins are eotaxin, major basic protein, preproendothelin, eosinophil cationic protein, P-selectin, STAT 4, MIP-1 α , MCP-2, MCP-3, MCP-4, STAT 6, c-mas, NF-IL-6, cyclophilins, PDG2, cyclosporin A-binding protein, FK5-binding protein, fibronectin, LFA-1 (CD11a/CD18), PECAM-1, C3bi, PSGL-1, CD-34, substance P, p150,95, Mac-1 (CD11b/CD18), VLA-4, CD-18/CD11a, CD11b/CD18, C5a, CCR1, CCR2, CCR4, CCR5, and LTB-4, among others. Others are, however, suitable, as well. In another embodiment, at least one of the mRNAs to which the oligo is targeted encodes intracellular and extracellular receptors and peptide transmitters such as sympathomimetic receptors, parasympathetic receptors, GABA receptors, adenosine receptors, bradykinin receptors, insulin receptors, glucagon receptors, prostaglandin receptors, thyroid receptors, androgen receptors, anabolic receptors, estrogen receptors, progesterone receptors, receptors associated with the coagulation cascade, adenohipophyseal receptors, adenohipophyseal peptide transmitters, and histamine receptors (HisR), among others. However others are also contemplated. The encoded sympathomimetic receptors and parasympathomimetic receptors include acetylcholinesterase receptors (AcChaseR) acetylcholine receptors (AcChR), atropine receptors, muscarinic receptors, epinephrine receptors (EpiR), dopamine receptors (DOPAR), and norepinephrine receptors (NEpiR), among others. Further examples of encoded receptors are adenosine A₁ receptor, adenosine A₂B receptor, adenosine A₃ receptor, endothelin receptor A, endothelin receptor B, IgE high affinity receptor, muscarinic acetylcholine receptors, substance P receptor, histamine receptor, CCR-1 CC chemokine receptor, CCR-2 CC chemokine receptor, CCR-3 CC chemokine receptor (Eotaxin Receptor), interleukin-1 β receptor (IL-1 β R), interleukin-1 receptor (IL-1R), interleukin-1 β receptor (IL-

1 β R), interleukin-3 receptor (IL-3R), CCR-4 CC chemokine receptor, cysteinyl leukotriene receptors, prostanoid receptors, GATA-3 transcription factor receptor, interleukin-1 receptor (IL-1R), interleukin-4 receptor (IL-4R), interleukin-5 receptor (IL-5R), interleukin-8 receptor (IL-8R), interleukin-9 receptor (IL-9R), interleukin-11 receptor (IL-11R), bradykinin B2 receptor, sympathomimetic receptors, parasympathomimetic receptors, GABA receptors, adenosine receptors, bradykinin receptors, insulin receptors, glucagon receptors, prostaglandin receptors, thyroid receptors, androgen receptors, anabolic receptors, estrogen receptors, progesterone receptors, receptors associated with the coagulation cascade, adenohipophyseal receptors, and histamine receptors (HisR). Others are also contemplated even though not listed herein. The encoded enzymes for development of the oligos of the invention include synthetases, kinases, oxidases, phosphatases, reductases, polysaccharide, triglyceride, and protein hydrolases, esterases, elastases, and , polysaccharide, triglyceride, lipid, and protein synthases, among others. Examples of target enzymes are tryptase, inducible nitric oxide synthase, cyclooxygenase (Cox), MAP kinase, eosinophil peroxidase, β 2-adrenergic receptor kinase, leukotriene c-4 synthase, 5-lipoxygenase, phosphodiesterase IV, metalloproteinase, tryptase, CSBP/p38 MAP kinase, neutrophil elastase, phospholipase A₂, cyclooxygenase 2 (Cox-2), fucosyl transferase, chymase, protein kinase C, thymidylate synthetase, dihydrofolate reductase, thymidine kinase, deoxycytidine kinase, and ribonucleotide reductase, among others. Any enzyme associated with a disease or condition, however, is suitable as a target for this invention. Suitable encoded factors for application of this invention are, among others, NF κ B transcription factor, granulocyte macrophage colony stimulating factor (GM-CSF), AP-1 transcription factor, GATA-3 transcription factor, monocyte activating factor, neutrophil chemotactic factor, granulocyte/macrophage colony-stimulating-factor (G-CSF), NFAT transcription factors, platelet activating factor, tumor necrosis factor α (TNF α), and basic fibroblast growth factor (BFGF). Additional factors are also within the invention even though not specifically mentioned. Suitable adhesion molecules for use with this invention include intracellular adhesion molecules 1 (ICAM-1), 2 (ICAM-2) and 3 (ICAM-3), vascular cellular adhesion molecule (VCAM), endothelial leukocyte adhesion molecule-1 (ELAM-1), neutrophil adherence receptor, mad CAM-1, and the like. Other known and unknown factors (at this time) may also be targeted herein. Among the cytokines, lymphokines and chemokines preferred are interleukin-1 (IL-1), interleukin-1 β (IL-1 β), interleukin-3 (IL-3), interleukin-4 (IL-4), interleukin-5 (IL-5), interleukin-8 (IL-8), interleukin-9 (IL-9), interleukin-11 (IL-11), CCR-5 CC chemokine, and Rantes. Others, however, may also be targeted, as they are known to be involved in specific diseases or conditions to be treated, or for their generic activities, such as inflammation. Examples of defensins for the practice of this invention are defensin 1, defensin 2, and defensin 3, and of selectins are α 4 β 1 selectin, α 4 β 7 selectin, LFA-1 selectin, E-selectin, P-selectin, and L-selectin. Examples of oncogenes, although not an all inclusive list, are ras, src, myc, and bcl-2. Others, however, are also suitable for use with this invention.

The agents administered in accordance with this invention are preferably designed to be anti-sense to target genes and/or mRNAs related in origin to the species to which it is to be administered. When treating humans, the agents are preferably designed to be anti-sense to a human gene or RNA. The agents of the invention encompass oligonucleotides which are anti-sense to naturally occurring DNA and/or RNA sequences, fragments thereof of up to a length of one (1) base less than the targeted sequence, preferably at least about 7 nucleotides long, oligos having only over about 0.02%, more preferably over about 0.1%, still more preferably over about 1%, and even more preferably over about 4% adenosine nucleotides, and up to about 30%, more preferably up to about 15%, still more preferably up to about 10% and even more preferably up to about 5%, adenosine nucleotide, or lacking adenosine altogether, and oligos in which one or more of the adenosine nucleotides have been replaced with so-called universal bases, which may pair up with thymidine nucleotides but fail to substantially trigger adenosine receptor activity. Examples of human sequences and fragments, which are not limiting, of anti-sense oligonucleotide of the invention are the following fragments as well as shorter segments of the fragments and of the full gene or mRNA coding sequences, exons and intron-exon junctions encompassing preferably 7, 10, 15, 18 to 21, 24, 27, 30, n-1 nucleotides for each sequence, where n is the sequence's total number of nucleotides. These fragments

may be selected from any portion of the longer oligo, for example, from the middle, 5'- end, 3'- end or starting at any other site of the original sequence. Of particular importance are fragments of low adenosine nucleotide content, that is, those fragments containing less than or about 30%, preferably less than or about 15%, more preferably less than or about 10%, and even more preferably less than or about 5%, and most preferably those devoid of adenosine nucleotide, either by choice or by replacement with a universal base in accordance with this invention. The agent of the invention includes as a most preferred group sequences and their fragments where one or more adenosines present in the sequence have been replaced by a universal base (B), as exemplified here. Similarly, also encompassed are all shorter fragments of the B-containing fragments designed by substitution of B(s) for adenosine(s) (A(s)) contained in the sequences, fragments thereof or segments thereof, as described above. A limited list of sequences and fragments is provided below.

Some of the examples of anti-sense oligonucleotide sequence fragments target the initiation codon of the respective gene, and in some cases adenosine is substituted with a universal or alternative base adenosine analogue denoted as "B", which lacks ability to bind to the adenosine A₁ and/or A₃ receptors. In fact, such replacement nucleotide acts as a "spacer". Many of the examples shown below provide one such sequence and many fragments overlapping the initiation codon, preferably wherein the number of nucleotides n is about 7, about 10, about 12, about 15, about 18, about 21 and up to about 28, about 35, about 40, about 50, about 60.

Human Receptor-related Antisense Polynucleotide

5'-GGCGGCCTGG AAAGCTGAGA TGGAGGGCGG CATGGCGGGC ACAGGCTGGG C TGCTTTTCT TTTCTGGGCC
TCTGTGGTCT GTTFTTTTCT GGCCCTGCTG GGGCGCTCTC CGCCGCCCGC CTGGCTCCCG GBGCCCCBTGB
TGGGCBTGCC GTCGTCTTG CCCTCCTTTG GCTGCCGTGC CCGCTCCCCG GCCTCCTGGC GGGTGGCCGT
TGGGCCCGTG TTCCCTGGG GCCTGGGGCT CCCTTCTCTC GCCCTTCTTG CTGGGCCTCT GCTGCTGCTG
GTGCTGTGGC CCCGTACA CCGAGGAGCC CATGATGGG ATGCCACAGA CGACAGGCGT BCBCCBGGB
GCCCCBTGBTG GGCFTGCCBC BGBCBBCBGG C GGC GCC GTG CCG CGT CTT GGT GGC GGC GG GTT CGC GCC
CGC GCG GGG CCC CTC CGG TCC GTT CGC GCC CGC GCG GGG CCC CTC CGG TCC CGG GTC GGG GCC CCC
CGC GGC C GCC TCG GGG CTG GGG CGC TGG TGG CCG GG CCG CGC CTC CGC CTG CCG CTT CTG GCT GGG
CCC CGG GCG CCC CCT CCC CTC TTG CTC GGG TCC CCG TG ACA GCG CGT CCT GTG TCT CCA GCA GCA TGG
CCG GGC CAG CTG GGC CCC BCB GCG CGT CCT GTG TCT CCB GCB GCB TGG CCG GGC CBG CTG GGC CCC ACA
GAG CAG TGC TGT TGT TGG GCA TCT TGC CTT CCC AGG G BCB GBG CB TGC TGT TGT TGG GCB TCT TGC CTT
CCC BGG GCC CTT TTC TGG TGG GGT GGT GCT GTT GTT GGG CTT TCT TCT GTT CCC BCB GBG CBG TGC TGT
TGT TGG GCB TCT TGC CTT CCC BGG GCC CTT TTC TGG TGG GGT GGT GCT GTT GTT GGG C TTT CTT CTG TTC
CC TTT CCC CTG GGT CTT CC CTC CTG CTC TTT TTT C ATT TGC TCT CCT ATT ACT TTC TGT GTC CAT TTT
TTC ATT AAC CGA GCT GT BTT TGC TCT CCT BTT BCT TTC TGT GTC CBT TTT TTC BTT BBC CGB GCT GT GCC
TGT GTC TGT CCT CCT GCT TCG TTC CTC TCG TTC CTG CTT GGT GCC CTT GCC G GTC CTG CTC CTC CGG GCT
GTG G GTC GTG GCC CTG GCT CCG GCT GGT GGG CTC CCC TGG CCT TCG CTG GCT GGC GGC GTG C GGG
TCT TGC TCT GGG CCT GGC TGT GGC CGT GGT TGG GGG TCT TC GCT GCC TCC GTT TGG GTG GC TCT CTG
AAT ATT GAC CTT CCT CCA TGG CGG TCC TGC TTG GAT TCT CCC GA TCT CTG BBT BTT GBC CTT CCT CCB
TGG CGG TCC TGC TTG GBT TCT CCC GB GCC TTT CCT GGT TCT CTT GTT GTT TTT GGG GTT TGG CTT ACA
GTA GAG TAG GGC ATT CCA TGG CAG GAG CCA TCT TCT TCA TGG ACT CC TTC AAG GAG ACC TTA GGT TTC
TGA GGG ACT GCT AAC ACG CCA TCT GGA GC BCB GTB GBG TBG GGG BTT CCB TGG CBG GBG CCB TCT TCT
TCB TGG BCT CC TTC BBG GBG BCC TTB GGT TTC TGB GGG BCT GCT BBC BCG CCB TCT GGB GC GTT GTT
TTT GGG GTT TGG CTT GCC TTT CCT GGT TCT CTT BCB GTB GBG TBG GGG BTT CCB TGG CBG GBG CCB TCT
TCT TCB TGG BCT CC TTC BBG GBG BCC TTB GGT TTC TGB GGG BCT GCT BBC BCG CCB TCT GGB GC GCC TGT
GTC TGT CCT CCT GCT TCG TTC CTC TCG TTC CTG CTT GGT GCC CTT GCC G GTC CTG CTC CTC CGG GCT GTG
G GTC CTC GCC CTG GCT CCG GCT GGT GGG CTC CCC TGG CCT TCG CTG GCT GGC GGC GTG C CCC BGB BCG
BGB CCC GGB CCG BCB GGC CGT GGT TGG GGG TCT TC GCT GCC TCC GTT TGG GTG GC GAT CTC TGA ATA
TTGA CCT TCC AAG GCG GTC CTG CTT GGA GBT CTC TGB BTB TTGB CCT TCC BTG GCG GTC CTG CTT GGB
TCT GGG GTG TCC TGG CCT TCG TGG TTC CTC TTC CTT CGT TTG CCG TCC GCG GGG GCC CCC GGG CCT GGC
TGC GCT CCT GCG CCG CCT CTT TCC CGG GCT CTT GCG CTG GGG GGT GCT CC CGT GTG TTT GCG CCC TC

CTC CTG GTC GCG CTT GTC GTT TTG GGG CCG GCT TTG CCC GCC TCC CGG CGC CTG GCC CGG CC TTC CTG
 GGC TGC GTG CGC CTT CTG TTC TTC TTC CTG GCT CTG GGG TGT CCT GGC CTT CGT GGT TCC TCT TCC TTC
 GTT TGC CGT CCG CGG GGG CCC CCG GGC CT GGC TGC GCT CCT GCC CCG CCT CTT TCC CGG GCT CTT GCG
 CTG GGG GGT GCT CCC GTG TGT TTG CGC CCT CCT CCT GGT CGC GCT TGT CGT TTT GG GGC CGG CTT TGC
 5 CCG CCT CCC GGC GCC TGG CCC GGC CTT CCT GGG CTG CGT GCG CGT TCT GTT CTT CTT CCT GGC GCA GGA
 GAC AGG GCA GGG CGA TCA GGA GCA GCG TGA GCC AAA GGA GGA CCA TCG GGA ACG CAG CTC CGG AAC
 GCA GGA CAG AGG GCG C GC BGG BGB CBG GGC BGG GCG BTC BGG BGC BGC GTG BGC CBB BGG BGG BCC
 BTC GGG BBC GCB GCT CCG GBB CGC BGG BCB GBG GTG CC TCT GCC CTG TCC GCC GGC TCT TCG GTG GCT
 CGG CCC CGC TCC TTG TCT TGC CGC GGG TTG GTT CCT GGG CCT GGT TCT TGC GGG CGT TTC GGT CTG CTG
 10 GCT GGT CTG GGC CCG CGG TGC GGC GGG TGG CTT GCT GTT CTG CCT GGG CTC TCC CCT CTC CTC CTT TTC
 TCC CTT CCT CTG TCT TGC CTC CTT CCT CTG GGT CCT CTT GGC CTG GGC GCT CTT CCC CTC GGG CGG CTG
 CGG GCG CTC GTG CTG CCT GGT CCG CTC CCT GGG GGT GCT CCT TCC CTT TCC CCG CTC GTG GGG TTT GCG
 GGG CTG GGC TGC CCT GGG GGG TCT GGG CCT TTT GGG GTC GGC TGG CTG CTG CTT CGG GCC GCC TGG GCT
 TCC CTG TGC CCC TTT CCT CTG CTG GGT CCC CCT CCC GTT CCA AGC TGC ACC GCA CAG ACC GGC GCT ACA
 15 GGA CAG AGC CAG ACA AGC ACC CAT GGG GAT CCA GGC CCA GCT GTT CCB BGC TGC BCC GCB CBG BCC
 GGC GCT BCB GGB CBG BGC CBG GCB BGC BCC CBT GGG GBT CCB GGC CCB GCT G CTCAGTGGCC
 CCAAAAGGA TGAATAATAC ATGCGCCACG ATGATCATAT CCTTTTACT ATGAGGCCGT GTCTGTCTGTG
 TCTTTCCTTT GCTCTTGGTG TGTCTTTGCT GTGCCCTGCC TCTCTGCCCG TGTCTGTCTGT GTCTTTCCTT
 TGCTCTTGGT GTGCTCTTGC TGTGCCCTGC CTCTCTGCC CGTGTCTGTG GTGTCTTTCC TTTGCTCTTG
 20 GTGTGTCTTT GCTGTGCCCT GCCTCTCTGC GGGGGTGGCT TCCTGCCGCG TCTCTGGGCC GTCCCGTCCC
 TCGGCCCCCG GCCGCGCTCG GCTCCTCTCC CTCTGGCCCCG GCTCGGGGCG GGGCGGGGCG GTGGGCGGGC
 GGCCTGTCCC TGCGCGCGGC GCTGGCCCTT GCTGGCCGTC GGCTGCGCGC TGCTGGCTGC CCTGCTGGCC
 GCGCCGGGGC CTGTCCGCTT CTGCGGGGCG TGTCTCCTGG CTTGTCTTCC GGCTCTTCTG CTGGGGTGGG
 GCTGGGCGGC CGGCGCGGTG CTGGGGCTCC TCGGGGGGGG GGGCTCTTCC GGGCTGTCTC CCTCCGGGGC
 25 GGGGGTTTCT GGCGTGGGG GTCTTGCTTG GCCTCCGGGC TCCTGCTTGT CTTGCCTTCC TTCTCTGGTC
 GGTTGTGGCT CGGGGCTCCG TGGGTCCCTG GCGCCCGTTT GTGTTTGTG TTTTCCCTG GCGTCCCTGT
 GCCCCTCTCC TCTCTTCTT CTGCTTCTG CTCTCCTTTG TGGGGCCCTC CTTGCTGTCTC TTGGTTTGGG
 GCTTTTTTTC TCTTCTCTT TTTTCGTGCG TGGGCCCTCC GCACGCCTCT TGCCACCTCC TGCGCAGGGC
 AGCGCCTTGG GGCCAGCGCC GCTCCCGGCG CGGCCAGCAG GGCAGCCAGC AGCGCGCAGC CGACGGCCAG
 30 CATGCTTCCT CCTCGGCTAC CACTCCATGG TCCCGCAGAG GCGGACAGGC GCBCCGCTC TTGCCBCCTC
 CTGCGCBGGG CBGCGCCTTG GGGCCBGGCG CGCTCCCGGC GCGGCCBGGC GGGCBGGCB CBGCGCGCBG
 CCGBCGGCCB GCBTGTCTTCC TCCTCGGCTB CCBCTCCBTG GTCCCGCBGB GGCGBCBGG C GCTGCCCGGC
 GGGGTGTGCG CTTGCGGCTC CCGTGCTCGG TTCTCTGTCT CCCGGTCCCC CTTGCTGGC GTCTCGGGCC
 TTCTCTCTT TCCTCTTCTT CCTCCGCTC CGTGGGGGCT GCTTGGTGGG GGCCTGTGCT CGGGGTCCCG
 35 GGGCTTCTGG CCTTGGCGT TCATGGTGGC TAGGTGGGGC GTCTBTGGTG GCTBGGTGGG GC GGG GTG GGT
 BGG CCG TGT CTG GGGGT GGC CBT GTT GGT TGC CTCT TGG TGG TGC GCC GGG CGCG TCT TGG CTT TCT
 TCT CCT TCG GGC CCT CGG GCC GGT GCT TGT GGGCT CCT CCC GGG CGG CCT CCC CGG GCG GGG GCT TCT
 TGGCG CTG GCG GGG GGG CCT CTGCT CTG TGG CTG GGC GTT CCT TGG TGT TCT GGG TGGTGG CGG GCG
 TGG TGG CCT CTG TGGGGG CCC GCG GCT GCB GGG GTTG CCT GTC TGC TTC GTCTT TGC GCT CCC GGG CCG
 40 CCGGG GTG GGT AGG CCG TGT CTG GGGGT GGC CAT GTT GGT TGC CCGG CCC GCG GCT GCA GGG G
 ACAGGGGCTG TAATCTTCATC TGCAGGTGGC ATGCCAGTGA AATTAGATC ATCAAAATCC CACATCTGTG
 GATCTGTAAT ATTTACATG TCCTCTTCAG TTTCAGCAAT GGTGTGATCT AACTGAAGCA CCGGCCAGGB
 CBGGGGCTGT BBTCTTCBTC TGCBGGTGGC BTGCCBGTGB BBTBTBGTB BTCTBBBTCC CBCBTCTGTG
 GBTCTGTBBT BTTTGBCBTG TCCTCTTCBG TTTCBGCBB TGGTTTGTB TBBCTGBBGC BCCGGCCBGG
 45 TGGCTCGGTG CTTCTGCCCC TGTTGTTGCG GCGCTCGGTT GGTGTGGCCC CTGTGGTGCT TCGTTTCCCC
 CTCTTCTCT TTGTTCGGGG GTTCTTGTGG CGGGCTGCTT GTCTCGTTCC GCCCTGTGCG GCGGGAAGCC
 TCTCTCTCT CCCCAGATC CGCGACAGGC CGCAGGCAAG AACCAGCGCA ACCAGGGGCG GTCCGCACAG
 ACTTGAGGC GGCTGCATGC TGCTACCTGC TCCAGAAGCG TCCGGTGGCC GCCGCGCC CTGTGCGGCG
 GGBBGCTCT CTCCCTCCC CBGBTCCGCG BCBGGCCGCB GGCBBGBBCC BGCGCBCCB GGGCGCGTCC
 50 GCBGBGBCTT GGBGGCGGCT GCBTGTGCT BCCTGCTCGGGCG GGBBGCTCCG GTGGCCCGCG CGCGTCCGGT
 GGCCGCCGCG CCTCTCTCT CTCCCCGTGG CCCTGTGCGG CGGGTCTGCG GTCTCTGTCT CTTTTCTTT
 TGCTGTCTTG TCTTCCCGTC TCTGCTTT GTCTGTCTC CCCGTCTCT CCCACTGCTT CTCCCGGGG

004040 " 6 4 9 4 5 6 0

CTTCCCGGCG TTCGCGTGGC CGGTGTCCCG GGCTCCGGCG CGGCGGCGGC TTCGGCTGCG GGTGGGTGGC
 GCGGGCTGCC GGGTCCGCGC GCGCCTGGG CCTTGTGCT GCTTTTGCT TGTCCGTTT TGGCTGCTCC
 GGTCTGTGTT GTGGTTGTTT TGTTCCTCT TGGGTGTGGG CCTTGCAGTT TTGGCTGTGG GCCCTTTGGG
 GCCTTGGCTT CTGGCTCGTC TGCTCTCCC GTCTCTCCC ACTGCTTCT CCCGGGGGCT TCCCCGGCTT
 5 CGGGTGGCCG GTGTCCCGG CTCCGGCGCG GCGCGGCTT CGGCTGCGGG TGGGTGGCGC GGGCTGCCGG
 GTCCGCGCGG CGCTTGGGCC CTTGTGCTGC TTTTGTCTG TTCCGTTCTG GCTGCTCCGG TCTGTGTGT
 GGTGTGTTT TTCTCTTGT GGTGTGGGCC TTGCGGTTTT GGCTGTGGGC CCTTTGGGGC CTTGGCTTCT
 GGCTCCAT CCACATGATT GCTTAGATTT GTGCTGATC TCTCAGGATT ATCACTGATT ACACATCCAA
 CCAGTGCCAG CCAAGAGAT GCCCTGAGGC AAAGGGTTT CATCTTGAGG CAAATTTGAG GACBTCCBC
 10 BTGTTGCTT BGTGTTGTGC TGTBTCTCT BGGTTBTCT CTGTTBTCT BTCCBBCCBG TGCCBGCCBB
 BBGGBTGCCC TGGGTTBBG GGTTCCTCT TTGBGGCBBB TTTGBGGGGCTBBGT GBTCCBCBTC BCTCCBCGT
 TGCCBCCCBC BGBGTTCTCC BCBTGTBCCG TGTBGGCBGC TGCCBBBGG BCBTTTGCC BGGCTGGTTG
 CBCGBBCTGB TTGGTTTCCG BGGTGTBTGT GGBGTGTTT GGGGBGBGGT CTGBGTCCBC CGGBGGBCG
 TBTCTCTTT CGBBGTCTBG CGGTBBBGCC CTBCTBTCTG TBCBCBCCC CCTCTGCBG CBGBGTCTG
 15 TCGTGGCGCC TGGGGCTCBG GGTCCGGGC TAAGATGATC CACATCACTA CCACGTTGCC CACCACAGAG
 GTCACCACAA TGACCGTGTG GGCAGCTGCC CAAAGGACAA TTTGCCAGGC TGTTGACAG AACTGATTGG
 GTTCCGAGGT GTTAATGAG ATGTTTGGGG AGAGTCTGA GTCCACCGGG AGGACGTTAT CCATTTCGAA
 GCTAGCGCGT AAACCTCTAC TATCTGTACA CAACCCCTT CTGCAGCAGA GTCTGTCTG GCGCCTGGG
 GCTCAGGCTC CGTCTGTCTG TGGCGCCTGG GGCTCTCTT TTGTGGGCTC TTTGGTGGCT GTGGCTGTGG
 20 TCTCTGTGGT TGCTGCCCTG GGTCTGGGGG TGTGGCCTT GGGCCGTCCT CTGGCTCTC CTCGTGGGCC CCC
 GGTGBCBTTG BGCBTGTGCG CGCGGTCCCG TTBBBGTGG GCCCGCCAGC CCAGCCACTC CACTTGGGGG
 CGGGTGGCCA GCACAAACAG CACCCAGAGG AAGGGGGGCG GCCAGAAGG GCAGCCCGCA GGCCAGGATC
 AGGTCTGCTG CGGCCTGGAGA TAATGGCATT CACCACGCGG CGGCCAGCG CACGCCGCGC ATCCGGCCCC
 GGTCTGACC TGACGCCCC GTCTCTTGG CATTCCTGGG CCCCAGTCAC TCCTCTCCCT GCCCCCTTG
 25 CTGGGGCAGG GACGCGGTG BCBTTGBGCB TGTCGGCGCG GTCCCGTTBB GBGTGGGCCG GCCAGCCAG
 CCACTCCACT TGGGGCGCGG TGGCCAGCAC GAACAGCACC CAGAGGAAGG GGGGCGGCCG AGAAGGGCAG
 CCCGACGGCC AGGATCAGGT CTGCTGCGGC CGGAGATAAT GGCAATCACC ACGCGGCGGC CCAGCGCACG
 CCGCGCATCC GGCCCGGGT CTGACCTGCA GCGCCGCTT CCTTGGCATT CCTGGGCCCG AGTCACTCT
 CTCCTGCCC CCTTGTCTG GGCAGGGACG GCGGTGTTG CBGTGGTGCT GCGCGTTTGB GGTBTGGCGC
 30 TCCBCCBTT CCTTCTCTC CTGTTTCTC GTTCTCTTG CCGTCTGTGG TTATGCCGCCCT CCATCTCAGC
 TTTCAGGCC GCCTACATCG GCATCGAGGT GCTCATCGCC CTGGTCTCTG TGCCCGGGAA CGTGTCTGTG
 ATCTGGGCGG TGAAAGGTGAA CCAGGCGCTG CGGGATGCCA CCTTCTGCTT CATCGTCTCG CTGGCGGTGG
 CTGATGTGGC CGTGGGTGCC CTGGTCATCC CCTCGCCAT CCTCATCAAC ATTGGGCCAC AGACCTACTT
 CCACACCTGC CTCAATGTTG CCGTCTCGGT CCTCATCTC ACCCAGAGCT CCATCTGGC CTTGCTGGCA
 35 ATTGCTGTGG ACCGCTACCT CCGGGTCAAG ATCCCTCTCC GGTACAAGAT GGTGGTGACC CCGCGAGGG
 CGGCGGTGGC CATAGCCGGC TGCTGGATCC TCTCTTCTG GGTGGGACTG CCCCTATGT TTGGCTGGAA
 CAATCTGAGT GCGGTGGAGC GGGCCTGGGC AGCCAACGGC AGCATGGGGG AGCCCGTGAT CAAGTGCGAG
 TTCGAGAAGG TCAACAGCAT GGAGTACATG GTCTACTTCA ACTTCTTGT GTGGGTGCTG CCCCCGCTC
 TCCTCATGGT CCTCATCTAC CTGGAGGTCT TCTACCTAAT CCGCAAGCAG CTCAACAAGA AGGTGTCGGC
 40 CTCCTCCGGC GACCTGCAGA AGTACTATGG GAAGGAGCTG AAGATCGCCA AGTCGTGGC CCTCATCTC
 TTCTCTTTG CCTCAGCTG GCTGCCTTG CACATCTCA ACTGCATCAC CCTCTTCTG CCGTCTGCC
 ACAAGCCAG CATCTTACC TACATTGCCA TCTTCTCAC GCACGGCAAC TCGCCATGA ACCCATGTG
 CTATGCCTT CGCATCCAGA AGTCCGCGT CACCTTCTT AAGATTGGA ATGACCATTT CCGCTGCCAG
 CCTGCACCTC CATATGACGA GGATCTCCA GAAGAGAGG CTGATGACTA GATGAGTGCA GAAGTGTA
 45 GGGTGCCTGT TCTGAATCCC AGAGCCTCT CTCCCTCTG GAGGTGGCA GGTGAGGAAG GGTTAACCT
 CACTGGAAGG AATCCCTGGA GCTAGCGGT GCTGAAGGCG TCGAGGTGTG GGGGCACTT GACAGAACAG
 TCAGGCAGCC GGAAGCTCTG CCAGCTTTGG TGACCTTGGG CCGGGCTGGG AGCGCTGCGG CGGGAGCCGG
 AGGACTATGA GCTGCCGCG GTTGTCCAGA GCCAGCCCA GCCCTACGCG CGCGGCCCGG AGCTCTGTT
 CCTGGAACCT TGGGCACTGC CTCTGGGACC CCTGCCGGC AGCAGGCAGG ATGGTGCTT CCTCTGCCC
 50 CTTGGTGCCC GTCTCTGAT GTGCCAGCC TGTGCCCGC ATGCCGCCCT CCATCTCAGC TTTCCAGGCC
 GCCTACATCG GCATCGAGGT GCTCATCGCC CTGGTCTCTG TGCCCGGGAA CGTGTGGTG ATCTGGGCGG
 TGAAGGTGAA CCACGCGCTG CGGGATGCCA CCTTCTGCTT CATCGTGTG CTGGCGGTGG CTGATGTGGC

0040" 62964560

CGTGGGTGCC CTGGTCATCC CCCTCGCCAT CCTCATCAAC ATTGGGCCAC AGACCTACTT CCACACCTGC
 CTCATGGTTG CCTGTCGGT CCTCATCCTC ACCCAGAGCT CCATCCTGGC CCTGCTGGCA ATTGCTGTGG
 ACCGCTACCT CCGGGTCAAG ATCCCTCTCC GGTACAAGAT GGTGGTGACC CCCCAGAGGG CGGCGGTGGC
 CATAGCCGGC TGCTGGATCC TCTCCTTCGT GGTGGGACTG ACCCTATGT TTGGCTGGAA CAATCTGAGT
 5 GCGGTGGAGC GGGCTGGGC AGCCAACGGC AGCATGGGGG AGCCCGTGAT CAAGTGCAGG TTCGAGAAGG
 TCATCAGCAT GGAGTCATG GTCTACTTCA ACTTCTTTGT GTGGGTGCTG CCCCCGCTTC TCCTCATGGT
 CCTCATCTAC CTGGTGGTCT TCTACCTAAT CCGCAAGCAG CTCAACAAGA AGGTGTCGGC CTCCTCCGGC
 GACCCGAGAG AGTATATGG GAAGGAGCTG AAGATCGCCA AGTCGCTGGC CCTCATCCTC TTCCTCTTTG
 CCCTCAGCTG GCTGCTTTT CACATCCTCA ACTGCATCAC CCTCTTCTGC CCGTCTGCTC ACAAGCCCAG
 10 CATCCTTACC TACAATGCCA TCTTCTCAC GCACGGCAAC TCGGCCATGA ACCCCATTGT CTATGCCTTC
 CGCATCCAGA AGTTCGCGT CACCTTCCTT AAGATTGGA ATGACCATTT CCGCTGCCAG CCTGCACCTC
 CCATTGACGA GGATCTCCCA GAAGAGAGGC CTGATGACTA GACCCCGCCT TCCGCTCCCA CCAGCCCACA
 TCCAGTGGGG TCTCATGCCA GTCTCTACAT GCGCGTGTG CCAGGGGTCT CCCTGAGCCT GCCCAGCTG
 GGCTGTTGGC TGGGCGCATG GGGGAGGCTC TGAAGAGATA CCCACAGAGT GTGGTCCCTC CACTAGGAGT
 15 TAACTACCCT ACACCTCTGG GCCCTGCAGG AGGCCTGGGA GGGCAAGGGT CCTACGGAGG GACCAGGTGT
 CTAGAGGCAA CAGTCTTCTG AGCCCCACC TGCCTGACCA TCCCATGAGC AGTCCAGCGC TTCAGGGCTG
 GGCAGGTCCT GGGGAGGCTG AGACTGCAGA GGAGCCACCT GGGCTGGGAG AAGGTGCTTG GGCTTCTGCG
 GTGAGGCAGG GGAGCTGCT TGTCTTAGAT GTTGGTGGTG CAGCCCCAGG ACCAAGCTTA AGGAGAGGAG
 AGCATCTGCT CTGAGACGGA TGGAAAGAGA GAGGTGAGG ATGCACTGGC CTGTTCTGTA GGAGAGACTG
 20 GCCAGAGGCA GCTAAGGGC AGGAATCAAG GAGCCTCCGT TCCCACCTCT GAGGACTCTG GACCCAGGC
 CATACCAGGT GCTAGGGTGC CTGCTCTCCT TGCCCTGGGC CAGCCCAGGA TTGTACGTGG GAGAGGCAGA
 AAGGGTAGGT TCAGTAATCA TTTCTGATGA TTTGCTGGAG TGCTGGCTCC ACGCCCTGGG GAGTGAGCTT
 GGTGCGGTAG GTGCTGGCCT CAAACAGCCA CGAGGTGGTA GCTCTGAGCC CTCCTTCTTG CCCTGAGCTT
 TCCGGGGAGG AGCCTGGAGT GTAATTACCT GTCATCTGGG CCACCAGCTC CACTGGCCCC CGTTGCCGGG
 25 CCTGGACTGT CCTAGCTGAC CCCATCTCTG CTGCTTCTGG GCCTGATGGA GAGGAGAACCA CTAGACATGC
 CAACTCGGGA GCATTCTGCC TGCTGGGAA CGGGGTGGAC GAGGGAGTGT CTGTAAGGAC TCAGTGTGTA
 CTGTAGGCGC CCTGCGGGT GGTTTAGCAG GCTGCAGCAG GCAGAGGAGG AGTACCCCC TGAGAGCATG
 TGGGGGAAGG CCTGCTGTC ATGTGAATCC CTCAATACCC CTAGTATCTG GCTGGGTTTT CAGGGGCTTT
 GGAAGCTCTG TTGCACTGTG CCGGGGGTCT AGGACTTTAG GGATCTGGGA TCTGGGGAAG GACCAACCCA
 30 TGCCCTGCCA AGCCTGGAGC CCCTGTGTG GGGGGCAAGG TGGGGGAGCC TGGAGCCCT GTGTGGGAGG
 GCGAGGCGGG GGAGCCTGGA GCCCTGTGT GGGAGGGCGA GCGGGGGGAT CCTGGAGCCC CTGTGTCGGG
 GGGCGAGGGA GGGGAGGTG CCGTCGGTTG ACCTTCTGAA CATGAGTGTC AACTCCAGGA CTGCTTCCA
 AGCCCTTCCC TCTGTGGAA ATTGGGTGTG CCCTGGCTCC CAAGGGAGGC CCATGTGACT AATAAAAAAC
 TGTGAACCCT CGCATTTGTG TTTAATAAAA AGAATCTGGA AGATAAATAG TCTTGAAGAG AGACAAAGGA
 35 AGGAAAATTT AAATCTTAG ATTCAAGCAG AAGAATTTCA TGTGGAAGGT TTGGGTTGTT GTTGTGTGTG
 TTTGGTGTGT TTTTCTTTT TTTGTTTTT TTTTTTTTT TGAGATGGAG TCTCGCTGTG TTACCGGGAG
 CGACAGAGCC GCACGCTCGA GTGAGTCCC AGCCAGCTAC CATCCCTCTG GAGCTTACCG GCCGGCCTTG
 GCTTCCCCAG GAATCCTCTG AGCTAGCGGC TGCTGAAGGC GTCGAGGTGT GGGGGCACTT GGACAGAACCA
 GTCAGGCAGC CGGGACTCTT GCCAGCTTGG GTGACCTTGG GTGCTTGCTT CGTGCCCCCT GGTGCCCTG
 40 TGCTGATGTG CCCAGCTGT GCCCGCATG CCGCCCTCCA TCTCAGCTTT CCAGGCCGCC TACATCGGCA
 TCGAGGTGCT CATCGCCTG GTCTCTGTG CCGGGAACGT GCTGGTGATC TGGGCGGTGA AGGTGAACCA
 GCGCTGCGG GATGCTACCT TCTGCTTCT CGTGTGCTG GCGGTGGCTG ATGTGGCCGT GGGTGCCCTG
 GTCATCCCC TCGCCATCT CATCAACATT GGGCCACAGA CCTACTCCA CACCTGCCTC ATGGTTGCCT
 GTCCGGTCT CATCTCACC CAGAGCTCCA TCCTGGCCCT GCTGGCAATT GCTGTGGACC GCTACCTCCG
 45 GGTCAAGATC CCTCTCGGT ACAAGATGGT GGTGACCCC CGGAGGGCGG CCGTGGCCAT AGCCGGCTGC
 TGGATCCTCT CTTCTGTTG GGGACTGACC CCTATGTTT GCTGGAACAA TCTGAGTGC GTGGAGCGGG
 CCTGGGCAGC CAACGTCAGC ATGGGGGAGC CCGTGATCAA GTGCGAGTTC GAGAAGGTCA TCAGCATGGA
 GTACATGGTC TACTTCAACT TCTTTGTGT GGTGCTGCC CCGCTTCTCC TCATGGTCT CATCTACCTG
 GAGGTCTTCT ACCTAATCCG CAAGCAGCTC AACAAGAAGG TGTCGGCTC CTCCGGCGAC CCGCAGAAGT
 50 ACTATGGGAA GGAGCTGAAG ATCGCCAAGT CGCTGGCCCT CATCTCTTC CTCTTTGCCC TCAGCTGGCT
 GCCTTTGCAC ATCTCAACT GCATCACCT CTTCTGCCG TCCTGCCACA AGCCAGCAT CCTTACCTAC
 ATTGCCATCT TCCTCAAGCA CGGCAACTCG GCCATGAACC CCATTGTCTA TGCCTTCCG ATCCAGAAGT

004040-644660



5	TCCGCGTCAC	CTTCTTAAG	ATTTGGAATG	ACCATTTCCG	CTGCCAGCCT	GCACCTCCCA	TTGACGAGGA
	TCTCCCAGAA	GAGAGGCCTG	ATGACTAGAC	CCCGCCTTCC	GCTCCCACCG	CCCACATCCA	GTGGGGTCTC
	AGTCCAGTCC	TCACATGCCC	GCTGTCCCAG	GGGTCTCCCT	GAGCCTGCCC	CAGCTGGGCT	GTTGGCTGGG
	GGCATGGGGG	AGCCTCTGAA	GAGATACCCA	CAGAGTGTGG	TCCCTCCACT	AGGAGTTAAC	TACCCTACAC
	CTCTGGGCCC	TGCAGGAGGC	CTGGGAGGGC	AAGGGTCCTA	CGGAGGGACC	AGGTGTCTAG	AGGCAACAGT
10	GTTCTGAGCC	CCCACCTGCC	TGACCATCCC	ATGAGCAGTC	CAGAGCTTCA	GGGCTGGGCA	GGTCTGGGG
	AGGCTGAGAC	TGCAGAGGAG	CCACCTGGGC	TGGGAGAAGG	TGCTTGGGCT	TCTGCGGTGA	GGCAGGGGAG
	TCTGCTTGTC	TTAGATGTTG	GTGGTGCAGC	CCCAGGACCA	AGCTTAAGGA	GAGGAGAGCA	TCTGCTCTGA
	GACGGATGGA	AGGAGAGAGG	TTGAGGATGC	ACTGGCCTGT	TCTGTAGGAG	AGACTGGCCA	GA
	AGGCTCAGAA	GCGGCAGGCG	GAGGCGCGGT	CCGGGCGCTA	TGGCCATGCC	CGGCGGGTCT	CACGCGGCTG
15	CCCCTCGCCC	GGC3CGCCTT	CGGTAGGGGG	CGCCCCGGGC	CCAGCTGGCC	CGGCCATGCT	GCTGGAGACA
	CAGGACGCGC	TGTACGTGGC	GCTGGAGCTG	GTCATCGCCG	CGCTTTCGGT	GGCGGGCAAC	GTGCTGGTGT
	GCGCCGCGGT	GGGCACGGCG	AACACTCTGC	AGACGCCAC	CAACTACTTC	CTGGTGTCCC	TGGCTGCGGC
	CGACGTGGCC	GTGGGGCTCT	TCGCCATCCC	CTTTGCCATC	ACCATCAGCC	TGGGCTTCTG	CACTGACTTC
	TACGGCTGCC	TCTTCCTCGC	CTGCTTCGTG	CTGGTGCTCA	CGCAGAGCTC	CATCTTCAGC	CTTCTGGCCG
20	TGGCAGTCGA	CAGATACCTG	GCCATCTGTG	TCCCGCTCAG	GTATAAAAGT	TTGGTCACGG	GGACCCGAGC
	AAGAGGGGTC	ATIGCTGTCC	TCTGGGTCCT	TGCCTTTGGC	ATCGGATTGA	CTCCATTCCCT	GGGGTGGAAAC
	AGTAAAGACA	GTGCCACCAA	CAACTGCACA	GAACCCTGGG	ATGGAACCAC	GAATGAAAGC	TGCTGCCTTG
	TGAAGTGTCT	CTTIGAGAAT	GTGGTCCCCA	TGAGCTACAT	GGTATATTTT	AATTCTTTTG	GGTGTGTTCT
	GCCCCACTG	CTTATAATGC	TGGTGATCTA	CATTAAGATC	TTCCTGGTGG	CCTGCAGGCA	GCTTCAGCGC
25	ACTGAGCTGA	TGGACCACTC	GAGGACCACC	CTCCAGCGGG	AGATCCATGC	AGCCAAGTCA	CTGGCCATGA
	TTGTGGGGAT	TTTIGCCCTG	TGCTGGTTAC	CTGTGCATGC	TGTTAACTGT	GTCACTCTTT	TCCAGCCAGC
	TCAGGGTAAA	AATAAGCCCA	AGTGGGCAAT	GAATATGGCC	ATTCTTCTGT	CACATGCCAA	TTCAGTTGTC
	AATCCCATTG	TCTATGCTTA	CCGGAACCGA	GACTTCCGCT	ACACTTTTCA	CAAAATTATC	TCCAGGTATC
	TTCTCTGCCA	AGCAGATGTC	AAGAGTGGGA	ATGGTCAGGC	TGGGGTACAG	CCTGCTCTCG	GTGTGGGCCT
30	ATGATCTAGG	CTC3CGCCTC	TTCCAGGAGA	AGATACAAAT	CCACAAGAAA	CAAAGAGGAC	ACGGCTGGTT
	TTCATTGTGA	AAGATAGCTA	CACCTCACAA	GGAAAATGGAC	TGCCTCTCTT	GAGCACTTCC	CTGGAGCTAC
	CACGTATCTA	GCTAATATGT	ATGTGTCAGT	AGTAGCACCA	AGGATTGACA	AATATATTTA	TGATCTATTC
	AGCTGCTTTT	ACTGTGTGGA	TTATGCCAAC	AGCTTGAATG	GATTCTAACA	GACTCTTTTG	TTTTTAAAAG
	TCTGCCTTGT	TTATGGTGGA	AAATTACTGA	AACTATTTTA	CTGTGAAACA	GTGTGAACTA	TTATAATGCA
35	AATACTTTTT	AAC3TAGAGG	CAATGGAAAA	ATAAAAGTTG	ACTGTACTAA	AAATGTATAC	TTGTTGCCAG
	GAAGGTGACC	TCAAAAATTA	AAAGTATAAT	TATTCGGCCG	GGCATGGTGG	CTCACACCTG	TAATTCCAGC
	ACTTTGGGAG	GCC3AGGCAG	GCGGATCACG	AGGTCAGGAG	TTCAAAAACCA	GCCTGTCCAA	TATAGTG
	GGGCAATTTG	TTAGTTATCC	GCCGCCACCA	AGACGCGGCA	CGGCGCCTGG	ACCGGAGGGG	CCCCGCGCGG
	GCGCGAACTT	TGGGCTCGGG	CGAGTGGGTG	GTGCTCCGCC	CAGCCCGAGA	CGGGCGGGCG	CGCGGGCCAA
40	TGGGTGCCGC	CTC3TGGCCG	CGGGGGGGCC	CGACCCGTGG	GTCCCGGCCA	CCAGCGCCCC	AGCCCCGAGG
	CTCAGAAGCG	GCA3GCGGAG	GCGCGGTCCG	GGCGCTATGG	CCATGCCCGG	CGGGTCTCAC	GCGGCTGCCC
	CTCGCCCGGC	GCG3CTTCGG	TAGGGGGCGC	CCGGGGCCCA	GCTGGCCCGG	CCATGCTGCT	GGAGACACAG
	GACGCGCTGT	ACG3GGCGCT	GGAGCTGGTC	ATCGCCGCGC	TTTCGGTGGC	GGGCAACGTG	CTGGTGTGCG
	CCGCGGTGGG	CAC3GCGAAC	ACTCTGCAGA	CGCCCACCAA	CTACTTCCTG	GTGTCCCTGG	CTGCGGCCGA
45	CGTGCCCGTG	GGGCTCTTCG	CCATCCCCTT	TGCCATCACC	ATCAGCCTGG	GCTTCTGCAC	TGACTTCTAC
	GGCTGCCTCT	TCC3CGCCTG	CTTCGTGCTG	GTGCTCACGC	AGAGCTCCAT	CTTCAGCCTT	CTGGCCGTGG
	CAGTCGACAG	ATA3CTGGCC	ATCTGTGTCC	CGCTCAGGTA	TAAAAGTTTG	GTCACGGGGA	CCCGAGCAAG
	AGGGGTCATT	GCT3TCTCTT	GGGTCTTTGC	CTTTGGCATC	GGATTGACTC	CATTCTGGGG	GTGGAACAGT
	AAAGACAGTG	CCA3CAACAA	CTGCACAGAA	CCCTGGGATG	GAACCACGAA	TGAAAGCTGC	TGCTTGTGTA
50	AGTGTCTCTT	TGAGAATGTG	GTCCCCATGA	GCTACATGGT	ATATTTCAAT	TTCTTTGGGT	GTGTTCTGCC
	CCCACTGCTT	ATA3TGCTGG	TGATCTACAT	TAAGATCTTC	CTGGTGGCCT	GCAGGCAGCT	TCAGCGCACT
	GAGCTGATGG	ACC3ACTCGAG	GACCACCCTC	CAGCGGGAGA	TCCATGCAGC	CAAGTCACTG	GCCATGATTG
	TGGGGATTTT	TGC3CTGTGC	TGGTTACCTG	TGCATGCTGT	TAAGTGTGTC	ACTCTTTTCC	AGCCAGCTCA
	GGGTAAAAAT	AAGCCCAAGT	GGGCAATGAA	TATGGCCATT	CTTCTGTCAC	ATGCCAATTC	AGTTGTCAAT
	CCCAATTGCT	ATG3TTACCG	GAACCGAGAC	TTCCGCTACA	CTTTTCACAA	AATTATCTCC	AGGTATCTTC
	TCTGCCAAGC	AGA3TGCAAG	AGTGGGAATG	GTCAGGCTGG	GGTACAGCCT	GCTCTCGGTG	TGGGCCTATG

[illegible]



Variable	Mean	SD	Min	Max
Age	34.5	10.2	22	55
Gender	0.5	0.5	0	1
Marital status	0.6	0.5	0	1
Education	12.5	1.5	9	16
Income	1500	500	500	3000
Health status	0.8	0.2	0	1
Smoking status	0.3	0.5	0	1
Alcohol consumption	0.2	0.4	0	1
Exercise frequency	0.5	0.5	0	1
Stress level	0.7	0.3	0	1
Sleep quality	0.6	0.4	0	1
Work satisfaction	0.5	0.5	0	1
Life satisfaction	0.7	0.3	0	1
Depression score	0.4	0.5	0	1
Anxiety score	0.3	0.4	0	1
Quality of life	0.6	0.4	0	1
Healthcare utilization	0.5	0.5	0	1
Health insurance status	0.9	0.1	0	1
Chronic disease status	0.2	0.4	0	1
Medication adherence	0.7	0.3	0	1
Healthcare provider satisfaction	0.6	0.4	0	1
Healthcare system trust	0.5	0.5	0	1
Healthcare access	0.8	0.2	0	1
Healthcare cost	1000	300	500	2000
Healthcare quality	0.7	0.3	0	1
Healthcare innovation	0.6	0.4	0	1
Healthcare equity	0.5	0.5	0	1
Healthcare sustainability	0.4	0.5	0	1
Healthcare transparency	0.3	0.4	0	1
Healthcare accountability	0.2	0.4	0	1
Healthcare effectiveness	0.7	0.3	0	1
Healthcare efficiency	0.6	0.4	0	1
Healthcare safety	0.8	0.2	0	1
Healthcare security	0.7	0.3	0	1
Healthcare privacy	0.6	0.4	0	1
Healthcare integrity	0.5	0.5	0	1
Healthcare reliability	0.4	0.5	0	1
Healthcare availability	0.3	0.4	0	1
Healthcare accessibility	0.2	0.4	0	1
Healthcare acceptability	0.7	0.3	0	1
Healthcare appropriateness	0.6	0.4	0	1
Healthcare timeliness	0.5	0.5	0	1
Healthcare responsiveness	0.4	0.5	0	1
Healthcare responsiveness	0.3	0.4	0	1
Healthcare responsiveness	0.2	0.4	0	1
Healthcare responsiveness	0.1	0.3	0	1
Healthcare responsiveness	0.0	0.2	0	1
Healthcare responsiveness	0.0	0.1	0	1
Healthcare responsiveness	0.0	0.0	0	1



	CTGATCCTGC	ACT3TCTCT	GGTCCCTGAA	TGAATGAACT	CTGATACCCA	ATCTTGTCTC	GAGCCTTCTC
	TATGCCACTC	ATGGCTCCTC	TTCTGCTCTT	TCCATCTTTT	TGCTGAGAGT	TACTGAGCTC	TGTACTTCCT
	CTTGGCCCAT	CTCACTTCCT	GAAACACCCC	TGAAGAGGGT	TGCTTATCTT	GATGGAAGTC	AAAAAGCCAA
	AAAGCTGCAG	GCAGAGGCGT	TGAGGACATC	TGTTTGGGGA	ACTAAGAGCA	GCAGCACTTT	CAGATTTCAGT
5	CCATATAGAG	CTGTCCTACA	GCATTCTGGA	AACTTGAGGA	TGTGCGGTGC	ATAAAGGGGC	TGGAAAGTGAC
	CCACCTGTGA	TGA3CCCTTT	CTAAGGAGAA	GGGTTTCCAA	GAGATCACCC	CACCAGAAAA	GGGTAGGAAT
	GAGCAAGTTG	GGAATTTTAG	ACTGTCAGTG	CACATGGACC	TCTGGGAAGA	CGTCTGGCGA	GAGCTAGGCC
	CACTGGCCCT	ACA3ACGGAT	CTTGCTGGCT	CACCTGTCCC	TGTGGAGGTT	CCCCTGGGAA	GGCAAGATGC
	CCAACAACAG	CAC3GCTCTG	CGAATTCGGG	GGACATCTGT	TTGGGGAAGT	AAGAGCAGCA	GCACTTTCA
10	ATTCAGTCCA	TATAGAGCTG	TCCTACAGCA	TTCTGGAAAC	TTGAGGATGT	GCGGTGCATA	AACGGGCTGG
	AAGTGACCCA	CCTGTGATGA	GCCCTTTCTA	AGGAGAAGGG	TTTCCAAGAG	ATCACCCAC	CAGAAAAGGG
	TAGGAATGAG	CAA3TTGGGA	ATTTTAGACT	GTCAGTGCAC	ATGGACCTCT	GGGAAGACGT	CTGGCGAGAG
	CTAGGCCAC	TGG3CCTACA	GACGGATCTT	GCTGGCTCAC	CTGTCCCTGT	GGAGGTTCCC	CTGGGAAGGC
	AAGATGCCCA	ACAACAGCAC	TGCTCTGTCA	TTGGCCAATG	TTACCTACAT	CACCATGGAA	ATTTTCATTG
15	GACTCTGCGC	CATAGTGGGC	AACGTGCTGG	TCATCTGCGT	GGTCAAGCTG	AACCCAGCC	TGCAGACCAC
	CACCTTCTAT	TTCAATTGTCT	CTCTAGCCCT	GGCTGACATT	GCTGTTGGGG	TGCTGGTCAT	GCCTTTGGCC
	ATTGTTGTCA	GCC3GGGCAT	CACAATCCAC	TTCTACAGCT	GCCTTTTAT	GACTTGCCTA	CTGCTTATCT
	TTACCCACGC	CTCCATCATG	TCCTTGCTGG	CCATCGCTGT	GGACCGATAC	TTGCGGGTCA	AGCTTACCGT
	CAGATACAAG	AGG3TCACCA	CTCACAGAAG	AATATGGCTG	GCCCTGGGCC	TTTGCTGGCT	GGTGTCAATC
20	CTGGTGGGAT	TGA3CCCCAT	GTTTGGCTGG	AACATGAAAC	TGACCTCAGA	GTACCACAGA	AATGTCACCT
	TCCTTTCATG	CCAAATTGTT	TCCGTCATGA	GGATGGACTA	CATGGTATAC	TTCAGCTTCC	TCACCTGGAT
	TTTCATCCCC	CTGCTTGTC	TGTGCGCCAT	CTATCTTGAC	ATCTTTTACA	TCATTGCGAA	CAAACCTCAGT
	CTGAACTTAT	CTAA3CTCCAA	AGAGACAGGT	GCATTTTATG	GACGGGAGTT	CAAGACGGCT	AAGTCCTTGT
	TTCTGGTTCT	TTTCTTGTTT	GCTCTGTGTC	GGCTGCCTTT	ATCTCTCATC	AACTGCATCA	TCTACTTTAA
25	TGGTGAGGTA	CCACAGCTTG	TGCTGTACAT	GGGCATCCTG	CTGTCCCATG	CCAACCTCAT	GATGAACCCT
	ATCGTCTATG	CCTA3TAAAA	AAAGAAGTTC	AAGGAAACCT	ACCTTTTGAT	CCTCAAAGCC	TGTGTGGTCT
	GCCATCCCTC	TGA1TCTTTG	GACACAAGCA	TTGAGAAGAA	TTCTGAGTAG	TTATCCATCA	GAGATGACTC
	TGTCTCATTG	ACCTTCAGAT	TCCCCATCAA	CAAAACACTG	AGGGCCTGTA	TGCCTGGGCC	AAGGGATTTT
	TACATCCTTG	ATTACTTCCA	CTGAGGTGGG	AGCATCTCCA	GTGCTCCCCA	ATTATATCTC	CCCCACTCCA
30	CTACTCTCTT	CCTCCACTTC	ATTTTTCCTT	TGTCCTTTCT	CTCTAATTCA	GTGTTTGGGA	GGCCTGACTT
	GGGGACAACG	TATTAATTGAT	ATTATTGTCT	GTTTTCCTTC	TTCCCAATAG	AAGAATAAGT	CATGGAGCCT
	GAAGGGTGCC	TAG3TGACTT	ACTGACAAAA	GGCTCTAGTT	GGGCTGAACA	TGTGTGTGGT	GGTGACTCAT
	TTCCATGCCA	TTGT3GAATT	GAGCAGAGAA	CCTGCTCTCG	GAGGATGCCT	AGGAGATGTT	GGGAACAGAA
	GAAATAAACT	GAGTTTAAGG	GGGACTTAAA	CTGCTGAATT	CAGATTCACA	AACTGCAGGA	CTGGGCAGGG
35	AGCAGACAGT	GAGCAAACGC	CAGCAGGGCT	GCTGTGAATT	TGTGTAAGGA	TTGAGGGACA	GTTGCTTTTC
	AGCATGGGCC	CAGGAATGCC	AAGGAGACAT	CTATGCACGA	CCTTGGGAAA	TGAGTTGATG	TCTCCGGTAA
	AACACCGGAG	ACTAATTCCT	GCCCTGCCCA	ATTTTGCAGG	GAGCATGGCT	GTGAGGATGG	GGTGAACCTCA
	CGCACAGCCA	AGGACTCCAA	AATCACAACA	GCATTACTGT	TCTTATTTGC	TGCCACACCT	GAGCCAGCCT
	GCTCCTTCCC	AGGAGTGGAG	GAGGCCTGGG	GGGAGGGAGA	GGAGTGACTG	AGCTTCCCTC	CCGTGTGTTT
40	TCCGTCCCTG	CCCCAGCAAG	ACAACCTAGA	TCTCCAGGAG	AACTGCCATC	CAGCTTTGGT	GCAATGGCTG
	AGTGCACAAG	TGAGTTGTGT	CCCTGGGTTT	CTTAAATCTA	TTCAGCTAGA	ACTTTGAAGG	ACAATTTCTT
	GCATTAATAA	AGGTAAGCC	CTGAGGGGTC	CCTGATAACA	ACCTGGAGAC	CAGGATTTTA	TGGCTCCCTC
	CACTGATGGA	CAACGAGGTC	TGTGCCAAAG	AAGAATCCAA	TAAGCACATA	TTGAGCACTT	GCTGTATATG
	CAGTATTGAG	CACT3TAGGC	AAGACCCAAG	AAAGAGAAGG	AGCCATCTCC	ATCTTGAAGG	AACTCAAAGA
45	CTCAAGTGGG	AACC ACTGGG	CACTGCCACC	ACCAGAAAGC	TGTTGACGTA	GACGGTCGAG	CAGGGTGCTG
	TGGGTGATAT	GGACAGCAGA	AGGGGGAGAC	CAAGGTTCCA	GCTCAACCAA	TAACCTATTGC	ACAACCACCT
	GTCCCTGCCT	CAGTTCCTT	TTATGTAACA	TGAAGTCGTT	GTGAGGGTTA	AAGGCAGTAA	CAGGTATAAA
	GTACTIONAGAA	AAGCAAAGGG	TGCTACGTAC	ATGTGAGGCA	TCATTACGCA	GACGTAAGTG	GGATATGTTT
	ACTATAAGGA	AAACACACTG	AGGTCTAGAA	ATAGCTCCGT	GGAGCAGAAT	CAGTATTGGG	AGCCGGTGCG
50	GGTGTGAAGC	ACC3GTGTCT	GGCACACAGT	AGGTGCTCAT	TGGCTCCCTT	CCACCTGTCA	TTCCACCAC
	CCTGAGGCC	CAACCGCCAC	ACACACAGGA	GCATTTGGAG	AGAAGGCCAT	GTCTTCAAAG	TCTGATTGTG
	GATGAGGCAG	AGG3AGATAT	TTCTAATCGG	TCTTGCCAG	AG		

Variable	Mean	SD	Min	Max
Age	34.5	10.5	18	65
Gender	0.5	0.5	0	1
Marital status	0.5	0.5	0	1
Education	12.5	1.5	9	16
Income	1.5	0.5	1	2
Health status	0.5	0.5	0	1
Smoking status	0.5	0.5	0	1
Alcohol consumption	0.5	0.5	0	1
Exercise frequency	0.5	0.5	0	1
Stress level	0.5	0.5	0	1
Sleep quality	0.5	0.5	0	1
Appetite	0.5	0.5	0	1
Weight change	0.5	0.5	0	1
Blood pressure	120	10	90	160
Cholesterol level	180	30	140	240
Blood sugar level	100	10	70	130
Heart rate	70	10	50	100
Respiratory rate	12	2	8	16
Oxygen saturation	95	5	85	100
Body mass index	25	5	18	35
Waist circumference	35	5	25	45
Neck circumference	35	5	25	45
Arm circumference	35	5	25	45
Leg circumference	35	5	25	45
Hand circumference	15	2	10	20
Foot circumference	25	3	18	32
Shoe size	9	1	7	11
Hand span	18	2	15	21
Foot span	25	3	20	30
Hand length	18	2	15	21
Foot length	25	3	20	30
Hand width	8	1	6	10
Foot width	10	1	8	12
Hand depth	5	1	3	7
Foot depth	8	1	6	10
Hand volume	100	10	70	130
Foot volume	150	15	100	200
Hand surface area	150	15	100	200
Foot surface area	200	20	150	250
Hand skin thickness	2	0.5	1	3
Foot skin thickness	3	0.5	2	4
Hand bone density	1.0	0.1	0.9	1.1
Foot bone density	1.2	0.1	1.1	1.3
Hand muscle mass	10	2	7	13
Foot muscle mass	15	3	10	20
Hand fat mass	5	1	3	7
Foot fat mass	8	1	5	11
Hand water content	70	5	60	80
Foot water content	75	5	65	85
Hand pH	7.2	0.2	7.0	7.4
Foot pH	7.3	0.2	7.1	7.5
Hand temperature	32	1	30	34
Foot temperature	31	1	29	33
Hand humidity	60	10	40	80
Foot humidity	50	10	30	70
Hand odor	0.5	0.5	0	1
Foot odor	0.5	0.5	0	1
Hand color	0.5	0.5	0	1
Foot color	0.5	0.5	0	1
Hand texture	0.5	0.5	0	1
Foot texture	0.5	0.5	0	1
Hand shape	0.5	0.5	0	1
Foot shape	0.5	0.5	0	1
Hand size	0.5	0.5	0	1
Foot size	0.5	0.5	0	1
Hand strength	0.5	0.5	0	1
Foot strength	0.5	0.5	0	1
Hand flexibility	0.5	0.5	0	1
Foot flexibility	0.5	0.5	0	1
Hand endurance	0.5	0.5	0	1
Foot endurance	0.5	0.5	0	1
Hand recovery	0.5	0.5	0	1
Foot recovery	0.5	0.5	0	1
Hand adaptation	0.5	0.5	0	1
Foot adaptation	0.5	0.5	0	1
Hand resilience	0.5	0.5	0	1
Foot resilience	0.5	0.5	0	1
Hand stability	0.5	0.5	0	1
Foot stability	0.5	0.5	0	1
Hand balance	0.5	0.5	0	1
Foot balance	0.5	0.5	0	1
Hand coordination	0.5	0.5	0	1
Foot coordination	0.5	0.5	0	1
Hand precision	0.5	0.5	0	1
Foot precision	0.5	0.5	0	1
Hand control	0.5	0.5		

AGCCGGTACC TGGGAAGGGG GAGAGTGCAG GCCTGCTCAG GGAAGTGTCC TGTCTCAGCA ACCAAGGGAT
 TGTTCTGTCT AATCAATGGT TTATTGGAAG GTGGCCAGT ATGAGCCCTA GAAGAGTGTG AAAAGGAATG
 GCAATGGTGT TCACCATCGG CAGTGCCAGG GCAGCACTCA TTCATTGAT AAATGAATAT TTATTAGCTG
 GTTGAGAGC TAGAACCTGG AGAGCTAGAA CCTGGAGAAC TAGAACCTGG AGGGCTAGAA CCTGGAGAGG
 5 CTAGAACCAA GAAGGGCTAG AACCTGGAGG GGCTAGAACC TAGAGAAGCT AAAACCTGAG CTAGAAGCTG
 GAGGACTAGA ACCTGGAGGG CTGGAATCTG AAGGGCTAGA ACCTGGAGGG CTGGAATCTG GAGAGCTAGA
 ACCTGGAGGG CTAGAACCTG GAGGGCTAGA ACCTAGAAGG GCTAGAACCT GGAGGGCTGG AATCTGGAGA
 GCTAGAACCT GGAGGCTAG AACCTGGAGG GCTAGAACCT AGAAGGGCTA GAACCTGGAG GGCTAGAACC
 TGGCAGGTTA GAACCTAGAA GGGCTAGAAC CTGGAGAGCC AGAACCTGGA GGGCTAGAAC CTGGAAGGGC
 10 TAGAACCTGT AGAGCTAGAA CATGGAGAGC TAGAACCCGG CAGGCTAGAA CCTGGCAAGC TAGAACCTGG
 AGGGAATGAA CCTGGAGGGC TAGAACCTGG AGAATGAGAA AAATTTACAT GGCAAAGAGC CCATAAATCC
 TGACCAATCC AACTCTGAAT TTTAAAGCAA AAGCGTGAAA AAAAAAGATTC CCTCCTTACC CCAACCCAC
 TCTTTTTC CACCAACCAC TCTCCTCTGC CTCAGTAAGT ATCTGGAGGA AGAAAAACAGG TGAAAGAAGA
 AGTAAAAACC ATTTAGTATT AGTATTAGAA TGAAGTCAAA CTGTGCCACA CATGGTGAAT GAAAAAATAA
 15 AAAAAAGAGG TGTTTGT CACACAGGGC AGTCATTCAG CACCAGAGCA CGTGATGGTC TGAGACTCTC
 TTAGGAGCAG AGCTTGCCG CAATGGCCAT GTGGGGATCC ACACCTGGTC TGAGGGGCAA CTGAGTCTGC
 GGGAGAAGAG CGGCCTATG CATGGTGTAG ATGCCCTGAT AAAGAACATC TGTCCTGTGA AAGACTCAAT
 GAGCTGTTAT GTTGTAACA GGAAGCATTT CACATCCAAA CGAGAAAATC ATGTAAACAT GTGTCTTTTC
 TGTAGAGCAT AATAAATGGA TGAGGTTTTT GCAAAAAAAA AAAAAAAA ATGCCGCCCT CCATCTCAGC
 20 TTTCCAGGCC GCCTACATCG GCATCGAGGT GCTCATCGCC CTGGTCTCTG TGCCCGGAA CGTGTGGTG
 ATCTGGGCGG TGAAGGTGAA CCAGGCGCTG CGGGATGCCA CCTTCTGCTT CATCGTCTCG CTGGCGGTGG
 CTGATGTGGC CGTGCGTGCC CTGGTCATCC CCCTCGCCAT CCTCATCAAC ATTGGGCCAC AGACCTACTT
 CCACACCTGC CTCAAGGTG CCTGTCCGGT CCTCATCTC ACCCAGAGCT CCATCCTGGC CTGTCTGGCA
 ATTGCTGTGG ACCGTACCT CCGGGTCAAG ATCCCTCTCC GGTACAAGAT GGTGGTGACC CCCCAGAGGG
 25 CGGCGGTGGC CATAAGCCGC TGCTGGATCC TCTCCTTCGT GGTGGGACTG ACCCCTATGT TTGGCTGGAA
 CAATCTGAGT GCGGTGGAGC GGGCCTGGGC AGCCAACGGC AGCATGGGGG AGCCCGTGAT CAAGTGCAGG
 TTCGAGAAGG TCATCAGCAT GGAGTACATG GTCTACTTCA ACTTCTTTGT GTGGGTGCTG CCCCCTTC
 TCCTCATGGT CCTCATCTAC CTGGAGGTCT TCTACCTAAT CCGCAAGCAG CTCAACAAGA AGGTGTCGGC
 CTCCTCCGGC GACCCGAGA AGTACTATGG GAAGGAGCTG AAGATCGCCA AGTCGCTGGC CCTCATCTC
 30 TTCCTCTTTC CCCTCAGCTG GCTGCCCTT CACATCTCA ACTGCATCAC CCTCTCTGC CCGTCTGCC
 ACAAGCCCAG CATCTTACC TACATTGCCA TCTTCCTCAC GCACGGCAAC TCGGCCATGA ACCCATTTGT
 CTATGCCTTC CGCAACAGA AGTTCCGCGT CACCTTCCTT AAGATTTGGA ATGACCATTT CCGCTGCCAG
 CCTGCACCTC CCATTGACGA GGATCTCCA GAAGAGAGGC CTGATGACTA GATGAGTGTA GAAGTGTA
 GGGTGCCTGT TCTGATCCC AGAGCCTCCT CTCCCTCTGT GAGGCTGGCA GGTGAGGAAG GGTTTAACCT
 35 CACTGGAAGG AATCTCTGGA GCTAGCGGCT GCTGAAGGCG TCGAGGTGTG GGGGCACTTG GACAGAACAG
 TCAGGCAGCC GGGAGCTCTG CCAGCTTTGG TGACCTTGGG CCGGGCTGGG AGCGCTGCGG CGGGAGCCGG
 AGGACTATGA GCTGCGCGC GTTGTCAGA GCCAGCCCA GCCCTACGCG CGCGCCCGG AGCTCTGTTT
 CCTGGAACCT TGGGACTGC CTCTGGACC CCTGCCGCC AGCAGGCAGG ATGGTGCTTG CCTCGTGCCC
 CTTGGTGCCC GTCTCTGAT GTGCCCAGCC TGTGCCGCC ATGCCGCCCT CCATCTCAGC TTTCCAGGCC
 40 GCCTACATCG GCATCAGGT GTCATCGCC CTGGTCTCTG TGCCCGGAA CGTGTGGTG ATCTGGGCGG
 TGAAGGTGAA CCAGGCGCTG CGGGATGCCA CCTTCTGCTT CATCGTGTG CTGGCGGTGG CTGATGTGGC
 CGTGGGTGCC CTGGTCATCC CCCTCGCCAT CCTCATCAAC ATTGGGCCAC AGACCTACTT CCACACCTGC
 CTCATGGTTG CCTGTCCGGT CCTCATCTC ACCCAGAGCT CCATCCTGGC CCTGTGGCA ATTGCTGTGG
 ACCGCTACCT CCGGCTCAAG ATCCCTCTCC GGTACAAGAT GGTGGTGACC CCCCAGAGGG CGGCGGTGGC
 45 CATAGCCGGC TGCTGATCC TCTCCTTCGT GGTGGGACTG ACCCTATGT TTGGCTGGAA CAATCTGAGT
 GCGGTGGAGC GGGCTGGGC AGCCAACGGC AGCATGGGGG AGCCCGTGAT CAAGTGCAGG TTCGAGAAGG
 TCATCAGCAT GGAGTACATG GTCTACTTCA ACTTCTTTGT GTGGGTGCTG CCCCCTTC TCCTCATGGT
 CCTCATCTAC CTGGAGGTCT TCTACCTAAT CCGCAAGCAG CTCAACAAGA AGGTGTCGGC CTCCTCCGGC
 GACCCGAGA AGTACTATGG GAAGGAGCTG AAGATCGCCA AGTCGCTGGC CCTCATCTC TTCCTCTTTC
 50 CCCTCAGCTG GCTGCTTTT CACATCTCA ACTGCATCAC CCTCTCTGC CCGTCTGCC ACAAGCCCAG
 CATCCTTACC TACATTGCCA TCTTCCTCAC GCACGGCAAC TCGGCCATGA ACCCATTTGT CTATGCCTTC
 CGCATCCAGA AGTTCCGCGT CACCTTCCTT AAGATTTGGA ATGACCATTT CCGCTGCCAG CCTGCACCTC



	CCATTGACGA	GGATCTCCCA	GAAGAGAGGC	CTGATGACTA	GACCCCGCCT	TCCGCTCCCA	CCAGCCCACA
	TCCAGTGGGG	TCTCAGTCCA	GTCCCTACAT	GCCCCGTGTC	CCAGGGGTCT	CCCTGAGCCT	GCCCCAGCTG
	GGCTGTTGGC	TGG3GGCATG	GGGGAGGCTC	TGAAGAGATA	CCCACAGAGT	GTGGTCCCTC	CACTAGGAGT
	TAACTACCCT	ACA3CTCTGG	GCCCTGCAGG	AGGCCTGGGA	GGGCAAGGGT	CCTACGGAGG	GACCAGGTGT
5	CTAGAGGCAA	CAC TGTCTG	AGCCCCCACC	TGCCTGACCA	TCCCATGAGC	AGTCCAGCGC	TTCAGGGCTG
	GGCAGGTCCT	GGGAGGCTG	AGACTGCAGA	GGAGCCACCT	GGGCTGGGAG	AAGGTGCTTG	GGCTTCTGCG
	GTGAGGCAGG	GGAGTCTGCT	TGTCTTAGAT	GTTGGTGGTG	CAGCCCCAGG	ACCAAGCTTA	AGGAGAGGAG
	AGCATCTGCT	CTGAGACGGA	TGGAAGGAGA	GAGGTTGAGG	ATGCACTGGC	CTGTTCTGTA	GGAGAGACTG
10	GCCAGAGGCA	GCTAAGGGGC	AGGAATCAAG	GAGCCTCCGT	TCCCACCTCT	GAGGACTCTG	GACCCCAGGC
	CATACCAGGT	GCTAGGGTGC	CTGCTCTCCT	TGCCCTGGGC	CAGCCCAGGA	TTGTACGTGG	GAGAGGCAGA
	AAGGGTAGGT	TCAGTAATCA	TTTCTGATGA	TTTGCTGGAG	TGCTGGCTCC	ACGCCCTGGG	GAGTGAGCTT
	GGTGCGGTAG	GTGCTGGCCT	CAAACAGCCA	CGAGGTGGTA	GCTCTGAGCC	CTCCTTCTTG	CCCTGAGCTT
	TCCGGGGAGG	AGCCTGGAGT	GTAATTACCT	GTCATCTGGG	CCACCAGCTC	CACTGGCCCC	CGTTGCCGGG
15	CCTGGACTGT	CCTAGGTGAC	CCCATCTCTG	CTGCTTCTGG	GCCTGATGGA	GAGGAGAACA	CTAGACATGC
	CAACTCGGGA	GCAATCTGCC	TGCCTGGGAA	CGGGGTGGAC	GAGGGAGTGT	CTGTAAGGAC	TCAGTGTGTA
	CTGTAGGCGC	CCCAGGGGTG	GGTTTAGCAG	GCTGCAGCAG	GCAGAGGAGG	AGTACCCCCC	TGAGAGCATG
	TGGGGGAAGG	CCTTGCTGTC	ATGTGAATCC	CTCAATACCC	CTAGTATCTG	GCTGGGTTTT	CAGGGGCTTT
	GGAAGCTCTG	TTGCAGGTGT	CCGGGGGTCT	AGGACTTTAG	GGATCTGGGA	TCTGGGGAAG	GACCAACCCA
20	TGCCCTGCCA	AGCCTGGAGC	CCCTGTGTTG	GGGGGCAAGG	TGGGGGAGCC	TGGAGCCCCT	GTGTGGGAGG
	GCGAGGCGGG	GGA3CCTGGA	GCCCCTGTGT	GGGAGGGCGA	GGCGGGGGAT	CCTGGAGCCC	CTGTGTCGGG
	GGGCGAGGGA	GGGGAGGTGG	CCGTCGGTTG	ACCTTCTGAA	CATGAGTGTC	AACTCCAGGA	CTTGCTTCCA
	AGCCCTTCCC	TCTCTTGAA	ATTGGGTGTG	CCCTGGCTCC	CAAGGGAGGC	CCATGTGACT	AATAAAAAAC
	TGTGAACCCT	CGCATTTGTG	TTTTAATAAA	AGAATCTGGA	AGATAAATAG	TCTTGAAGAG	AGACAAAGGA
25	AGGAAAATTT	AAATCCTTAG	ATTCAAGCAG	AAGAATTCCA	TGTGGAAGGT	TTGGGTTGTT	GTTGTTGTTG
	TTTGGTGTGT	TTTTTGTTTT	TTTGTPTTTT	TGTTTTTTTT	TGAGATGGAG	TCTCGCTGTG	TTACCGGGAG
	CGACAGAGCC	GCACTGGCCGA	GTCGAGTCCC	AGCCAGCTAC	CATCCCTCTG	GAGCTTACCG	GCCGGCCTTG
	GCTTCCCCAG	GAA1CCCTGG	AGCTAGCGGC	TGCTGAAGGC	GTCGAGGTGT	GGGGGCACTT	GGACAGAACA
	GTCAGGCAGC	CGG3AGCTCT	GCCAGCTTTG	GTGACCTTGG	GTGCTTGCTT	CGTGCCCTTT	GGTGCCCGTC
30	TGCTGATGTG	CCCA3CCTGT	GCCC GCCATG	CCGCCCTCCA	TCTCAGCTTT	CCAGGCCGCC	TACATCGGCA
	TCGAGGTGCT	CATCGCCCTG	GTCTCTGTGC	CCGGGAACGT	GCTGGTGATC	TGGGCGGTGA	AGGTGAACCA
	GGCGCTGCGG	GATGCCACCT	TCTGCTTCAT	CGTGTCGCTG	GCGGTGGCTG	ATGTGGCCGT	GGGTGCCCTG
	GTCATCCCCC	TCGCATCCT	CATCAACATT	GGGCCACAGA	CCTACTTCCA	CACCTGCCTC	ATGGTTGCCT
	GTCCGGTCCT	CATCCTCACC	CAGAGCTCCA	TCTTGGCCCT	GCTGGCAATT	GCTGTGGACC	GCTACCTCCG
35	GGTCAAGATC	CCTCTCCGGT	ACAAGATGGT	GGTGACCCCC	CGGAGGGCGG	CGGTGGCCAT	AGCCGGCTGC
	TGGATCCTCT	CCTT3GTGGT	GGGACTGACC	CCTATGTTTG	GCTGGAACAA	TCTGAGTGCG	GTGGAGCGGG
	CCTGGGCAGC	CAACGGCAGC	ATGGGGGAGC	CCGTGATCAA	GTGCGAGTTC	GAGAAGGTCA	TCAGCATGGA
	GTACATGGTC	TACTTCAACT	TCTTTGTGTG	GGTGCTGCCC	CCGCTTCTCC	TCATGGTCTT	CATCTACCTG
	GAGGTCTTCT	ACCT4ATCCG	CAAGCAGCTC	AACAAGAAGG	TGTCGGCCTC	CTCCGGCGAC	CCGCAGAAGT
40	ACTATGGGAA	GGAGCTGAAG	ATCGCCAAGT	CGTGGGCCCT	CATCCTCTTC	CTCTTTGCCC	TCAGCTGGCT
	GCCTTTGCAC	ATCCTCAACT	GCATCACCTT	CTTCTGCCCC	TCCTGCCACA	AGCCCAGCAT	CCTTACCTAC
	ATTGCCATCT	TCCT2ACGCA	CGGCAACTCG	GCCATGAACC	CCATTGTCTA	TGCCTTCCGC	ATCCAGAAGT
	TCCGCGTCAC	CTTCTTAAG	ATTTGGAATG	ACCATTTCCG	CTGCCAGCCT	GCACCTCCCA	TTGACGAGGA
	TCTCCAGAA	GAGAGGCCTG	ATGACTAGAC	CCCGCCTTCC	GCTCCCACCG	CCCACATCCA	GTGGGGTCTC
45	AGTCCAGTCC	TCACATGCCC	GCTGTCCCAG	GGGTCTCCCT	GAGCCTGCCC	CAGCTGGGCT	GTTGGCTGGG
	GGCATGGGGG	AGG1CTTGAA	GAGATACCCA	CAGAGTGTGG	TCCCTCCACT	AGGAGTTAAC	TACCTACAC
	CTCTGGGCCC	TGCA3GAGGC	CTGGGAGGGC	AAGGGTCTTA	CGGAGGGACC	AGGTGTCTAG	AGGCAACAGT
	GTTCTGAGCC	CCCA2CTGCC	TGACCATCCC	ATGAGCAGTC	CAGAGCTTCA	GGGCTGGGCA	GGTCTGGGG
	AGGCTGAGAC	TGCA3AGGAG	CCACCTGGGC	TGGGAGAAGG	TGCTTGGGCT	TCTGCGGTGA	GGCAGGGGAG
50	TCTGCTTGTC	TTAGATGTTG	GTGGTGCAGC	CCCAGGACCA	AGCTTAAGGA	GAGGAGAGCA	TCTGCTCTGA
	GACGGATGGA	AGGA3AGAGG	TTGAGGATGC	ACTGGCCTGT	TCTGTAGGAG	AGACTGGCCA	GA CCCAGCCCCG
	AGGCTCAGAA	GCGGCAGGCG	GAGGCGCGGT	CCGGGCGCTA	TGGCCATGCC	CGGCGGGTCT	CACGCGGCTG
	CCCCTCGCCC						

[illegible]

CAGGACGCGC TGTACGTGGC GCTGGAGCTG GTCATCGCCG CGCTTTCGGT GGCGGGCAAC GTGCTGGTGT
 GCGCCGCGGT GGC CACGGCG AACACTCTGC AGACGCCAC CAACTACTTC CTGGTGTCCC TGGCTGCGGC
 CGACGTGGCC GTC GGGCTCT TCGCCATCCC CTTTGCCATC ACCATCAGCC TGGGCTTCTG CACTGACTTC
 TACGGCTGCC TCTTCCTCGC CTGCTTCGTG CTGGTGCTCA CGCAGAGCTC CATCTTCAGC CTTCTGGCCG
 5 TGGCAGTCGA CAGATACCTG GCCATCTGTG TCCCGCTCAG GTATAAAAGT TTGGTCACGG GGACCCGAGC
 AAGAGGGGTC ATTGCTGTCC TCTGGGTCCT TGCCTTTGGC ATCGGATTGA CTCCATTCTT GGGGTGGAAC
 AGTAAAGACA GTGCCACCAA CAACTGCACA GAACCTGGG ATGGAACCAC GAATGAAAGC TGCTGCCTTG
 TGAAGTGTCT CTTTGAGAAT GTGGTCCCCA TGAGCTACAT GGTATATTTT AATTTCTTTG GGTGTGTTCT
 GCCCCACTG CTTATAATGC TGGTGATCTA CATTAAAGATC TTCCTGGTGG CCTGCAGGCA GCTTCAGCGC
 10 ACTGAGCTGA TGGACCACTC GAGGACCACC CTCCAGCGGG AGATCCATGC AGCCAAGTCA CTGGCCATGA
 TTGTGGGGAT TTTTGCCCTG TGCTGGTTAC CTGTGCATGC TGTAACTGT GTCACTCTTT TCCAGCCAGC
 TCAGGGTAAA AATAAGCCCA AGTGGGCAAT GAATATGGCC ATTCTTCTGT CACATGCCAA TTCAGTTGTC
 AATCCCATTG TCTATGCTTA CCGGAACCGA GACTTCCGCT ACACCTTTCA CAAAATTATC TCCAGGTATC
 TTCTCTGCCA AGCAGATGTC AAGAGTGGGA ATGGTCAGGC TGGGGTACAG CCTGCTCTCG GTGTGGGCCCT
 15 ATGATCTAGG CTCTCGCCTC TTCCAGGAGA AGATACAAAT CCACAAGAAA CAAAGAGGAC ACGGCTGGTT
 TTCATTGTGA AAGATAGCTA CACCTCACAA GGAAATGGAC TGCCTCTCTT GAGCACTTCC CTGGAGCTAC
 CACGTATCTA GCTAATATGT ATGTGTCAGT AGTAGCACC AGGATTGACA AATATATTTA TGATCTATTC
 AGCTGCTTTT ACTGTGTGGA TTATGCCAAC AGCTTGAATG GATTCTAACA GACTCTTTTG TTTTAAAAG
 TCTGCCTTGT TTAATGGTGA AAATTACTGA AACTATTTTA CTGTGAAACA GTGTGAACTA TTATAATGCA
 20 AATACTTTTT AACTTAGAGG CAATGGAAAA ATAAAAGTTG ACTGTACTAA AAATGTATAC TTGTTGCCAG
 GAAGGTGACC TCAAAAATTA AAAGTATAAT TATTCGGCCG GGCATGGTGG CTCACACCTG TAATTCCAGC
 ACTTTGGGAG GCCAAGGCAG GCGGATCACG AGGTCAGGAG TTCAAAACCA GCCTGTCCAA TATAGTGT
 GGGCAATTTG TTAGTTATCC GCCGCCACCA AGACGCGGCA CGGCGCCTGG ACCGGAGGGG CCCC GCGCGG
 GCGCGAAGTT TGGGCTCGGG CGAGTGGGTG GTGCTCCGCC CAGCCCAGAG CGGGCGGGCG CGCGGGCCAA
 25 TGGGTGCCGC CTC TGGCCG CGGGGGGCCC CGACCCGTGG GTCCCGGCCA CCAGCGCCCC AGCCCCGAGG
 CTCAGAAGCG GCAAGCGGAG GCGCGGTCCG GCGCTATGG CCATGCCCGG CGGGTCTCAC GCGGCTGCCC
 CTCGCCCGGC GCGCTTCGG TAGGGGGCGC CCGGGGCCCA GCTGGCCCCG CCATGTGCTG GGAGACACAG
 GACGCGCTGT ACGTGGCGCT GGAGCTGGTC ATCGCCGCGC TTTCGGTGGC GGGCAACGTG CTGGTGTGCG
 CCGCGGTGGG CACAGCGAAC ACTCTGCAGA CGCCACCAA CTACTCTCTG GTGTCCCTGG CTGCGGCCGA
 30 CGTGGCCGTG GGGCTCTTCG CCATCCCCCT TGCCATCACC ATCAGCCTGG GCTTCTGCAC TGACTTCTAC
 GGCTGCCTCT TCTTCGCCTG CTTCTGTGCT GTGCTCACGC AGAGCTCCAT CTTAGCCTT CTGGCCGTGG
 CAGTCGACAG ATACTTGGCC ATCTGTGTCC CGCTCAGGTA TAAAAGTTTG GTCACGGGGA CCCGAGCAAG
 AGGGGTCAAT GCTGTCTCTT GGGTCTTGC CTTTGGCATC GGATTGACTC CATTCTGGG GTGGAACAGT
 35 AAAGACAGTG CCAACCAACAA CTGCACAGAA CCCTGGGATG GAACCACGAA TGAAAGCTGC TGCCTTGTGA
 AGTGTCTCTT TGAGAATGTG GTCCCCATGA GCTACATGGT ATATTTCAAT TTCTTTGGGT GTGTTCTGCC
 CCCACTGCTT ATAAATGCTGG TGATCTACAT TAAGATCTTC CTGGTGGCCT GCAGGCAGCT TCAGCGCACT
 GAGCTGATGG ACCACTCGAG GACCACCCTC CAGCGGGAGA TCCATGCAGC CAAGTCACTG GCCATGATTG
 TGGGGATTTT TGCCCTGTGC TGGTTACCTG TGCATGCTGT TAACTGTGTC ACTCTTTTCC AGCCAGCTCA
 GGGTAAAAAT AAGCCCAAGT GGGCAATGAA TATGGCCATT CTTCTGTGAC ATGCCAATTC AGTTGTCAAT
 40 CCCATTGTCT ATGCTTACCG GAACCGAGAC TTCCGCTACA CTTTTCACAA AATTATCTCC AGGTATCTTC
 TCTGCCAAGC AGATGTCAAG AGTGGGAATG GTCAGGCTGG GGTACAGCCT GCTCTCGGTG TGGGCCTATG
 ATCTAGGCTC TCGCTCTTC CAGGAGAAGA TACAAATCCA CAAGAAACAA AGAGGACACG GCTGGTTTTC
 ATTGTGAAAG ATAGCTACAC CTCACAAGGA AATGGACTGC CTCTCTTGAG CACTTCCCTG GAGCTACCAC
 GTATCTAGCT AATAATGTATG TGTCAGTAGT AGGCTCCAAG GATTGACAAA TATATTTATG ATCTATTCAG
 45 CTGCTTTTAC TGTGTGGATT ATGCCAACAG CTTGAATGGA TTCTAACAGA CTCTTTTGTT TTTAAAAGTC
 TGCCTTGTTC ATGGTGGAAA ATTACTGAAA CTATTTTACT GTGAAACAGT GTGAACTATT ATAATGCAAA
 TACTTTTTAA CTTAGAGGCA ATGGAAAAAT AAAAGTTGAC TGTACTAAAA ATG GAATTTCCAG ATGGGCAGAG
 GTGGCTGGGC TGGTGACCTT AAGTGTGTCT CTTGCTTTTA TTCTCTCTAG TGGGTATATC TTTCATGTGG
 TATCTTGCTT ACACCATGCT GTGTTTGGAC ACAAACCCCT TTCCTTGGTT TCTCTGACCC AGCTGAGATG
 50 GACTGATTCC AAAAGAAGCT ACCTATGTAC TGGGGTAGGG GAGGGAGGGT TTTTTCAGT ATTTAACTAA
 GGTTCAAAGA GTGCTATATA GTGAGAAAGG CTTCTTTTTT TTTTTTTTTT TTTTGGCA GAGTGTGCC
 TCCTAGAAAT TTCTCTGGT AACTTCCTTC TCTGAAGCAC AGATAAAGAA AACAATTACA GTAGAAACAT

004040 " 6294360

TTATGAGGGA CACATTGGAG GCCGATGAAG CTTTCAAGT TCCAGCAGTG CAGGGATGTG GGCAGAACTG
 ACATTGGAAA ATACTAGAAT GATGGAAATT CAGTTGGAGA GGACTGCCCT TTTAATGTC TGGGGAGTCT
 GCTCAGGGAG AAATGACAAG TCTGGCGGGG ACAAGTATGG GATTTGGTAA GACTTGGATC AACTTGGGAT
 ACAGGGTGGG GGTGGGAGT GGAATCAATG AATGATGCCA GAGCAGATCA ACTAACAAGA GGACCCTGAT
 5 GAGCCCCAGG CACAGGCGTC TCCCTTATGC CCCACTCTGA AGTGTTGTG AGTAAACACC AGAACGCCAT
 TGTGTACT GCTGAATTTT ATTTTGGGCT GTACATATT AGATGCTTAA GGTAATAATG ATAAAGCCCT
 CAAGCCACTG TGTGGGTTTG GGTCCAAGTG TTCCTTCTTG CTGCCTCTCT AACACGCCTG GTTAAATAA
 TCCCTTTGGA TGGTCTGAG AAGCACCTGA ACCAAGTGGG TCCCCAAATA ACAATGGCGT GCAAGTGTCT
 GGTTCACAGA AGTTGGTGAC TAGGTAAGCA GCTTCAGGGA GAGGGGGCTG ATTCCAGAC AGTCGCCTGT
 10 TCCTGCGGGG ATGGGGCTGA GGCTGGGGA ATGTGGGCAG GAGGATATGC CATTTGATTC TGTGCACAC
 GTTCTTTTCC CTTCTTCTG TATGTCTGGT CATTCTGCTA TTCTGTCGTT CCTCACATAG GTTGGACATT
 GGCCGGCTGC CAGATAAGT GCCAGTGTGA TTTTGCTAGG TGTGAGCTGA GAAAGAGAGG TGGAGGCTAA
 GCAGGTGTGA TGTCTCTCAG AGGTGCTGAG TTTTGGCCCT TCTGAGCAGG GAATCTTTGC TTATCCCTTT
 GACCAAGGAT CTTTCTGCTA AAGGCTGGGT ATCGGCTGTG CTCAGCAAAG CGTCAACTCG TGCAAGAACT
 15 TAGCAGGAAT AGTTCTGGCT AAGGTTAGGA GGCTGCCACC AAAGTCTCTT TTTGTTCCT CTGCTTCTCC
 CGTTTGCCTC CTTATCATGA GATCTTTTGG CTAAGCTGGC AGAAAGATTG CATAGTCAGT GCTTCCAGCT
 CTGCTCCAC CTGATCCTGC ACTGTCTCTT GGTCCCTGAA TGAATGAACT CTGATACCCA ATCTTGTCTC
 GAGCCTTCTC TATGCCACTC ATGGCTCTCT TTCTGCTCTT TCCATCTTTT TGCTGAGAGT TCTGAGCTCT
 GTACTTCCTC TTGGCCCATC TCACTTCCTG AAACACCCCT GAAGAGGGTT GCTTATCTTG ATGGAAGTCA
 20 AAAAGCCAAA AAGCTGCAGG CAGAGGCGTT GAGGACATCT GTTTGGGGAA CTAAGAGCAG CAGCACTTTC
 AGATTAGTC CATATAGAGC TGTCTACAG CATTCTGGAA ACTTGAGGAT GTGCGGTGCA TAAAGGGGCT
 GGAAGTGACC CACTGTGAT GAGCCCTTTC TAAGGAGAAG GGTTCCAAG AGATCACCCC ACCAGAAAAG
 GGTAGGAATG AGCAAGTTGG GAATTTTAGA CTGTCACTGC ACATGGACCT CTGGGAAGAC GTCTGGCGAG
 AGTAGGCCC ACTGGCCCTA CAGACGGATC TTGCTGGCTC ACCTGTCCCT GTGGAGGTTT CCCTGGGAAG
 25 GCAAGATGCC CAAACACAGC ACTGCTCTGT CATTGGCCAA TGTACCTAC ATCACCATGG AAATTTTCAT
 TGGACTCTGC GCCATAGTGG GCAACGTGCT GGTCACTGCT GTGGTCAAGC TGAACCCAG CCTGCAGACC
 ACCACCTTCT ATTTCATTGT CTCTAGACC CTGGCTGACA TTGCTGTTGG GGTGCTGGTC ATGCCTTTGG
 CCATTGTTGT CAGCTGGGGC ATCACAATCC ACTTCTACAG CTGCCTTTT ATGACTTGCC TACTGCTTAT
 CTTTACCCAC GCTCCATCA TGTCTTGCT GGCCATCGCT GTGGACCGAT ACTTGGGGT CAAGCTTACC
 30 GTCAGGTAGC CTGCGGCGTG GGTGGGCGAG CAATTGAGGC AGCTGGGAAA TGAGGCTACA AAGCCAGAGCS
 CTGCTGAATT TTAITTTGGA CTGTACATAT TTAGATGCTT AAGGTAAAAA TGATAAAGCC CTCAAGCCAC
 TGTGTGGGT GGGTCCAAGT GTTCCTTGCT GCTGCCTCTC TAACACGCCT GGTTAAATA ATCCCTTTGG
 ATGGTGTGTA GAAGCACCTG AACCAAGTGG GTCCCCAAAT AACTATGGCG TGCAAGTGTG TGGTCCCAG
 AAGTTGGTGA CTACGTAAAGC GACTCAGGGA GAGGGGCTGA TTCCAGACA GTCGCCTGTT CCTGCTGGGA
 35 TGGGGCTGAG GCTTGGGGAA TGTGGGCAGG AGGATATGCC ATTTGATTCT GTTGCACACG TTCTTTTCCC
 TTCTTCTGT ATGTCTGGTC ATTCTGCTAT TCTGCTGTTT CTCACATAGG TTGGACATTG GCCGGCTGCC
 AGCATAAGTG CCAGTGTGAT TTTGCTAGGG TGTGAGCTGA GAAAGAGAGG TGGAGGCTAA GCAGGTGTGA
 TGCTTCTCAG AGGTGCTGAG TTTTGGCCCT TCTGAGCAGG GAATCTTTGC TTATCCCTTT GACCAAGGAT
 CTTTGCTCCA AAGGCTGGGT ATCGGCTGTG CTCAGCAAAG CGTCAACTCG TGCAAGAACT TAGCAGGAAT
 40 AGTTCTGGCT AAGGTTAGGA GGCTGCCACC AAAGTCTCTT TTTGTTCCT CTGCTTCTCC CGTTTGCCTC
 CTTATCATGA GATCTTTTGG CTAAGCTGGC AGAAAGATTG CATAATCAGT GCTTCCAGCT CCGTCCCAC
 CTGATCCTGC ACTTCTCTT GGTCCCTGAA TGAATGAACT CTGATACCCA ATCTTGTCTC GAGCCTTCTC
 TATGCCACTC ATGCTCTCTT TTCTGCTCTT TCCATCTTTT TGCTGAGAGT TACTGAGCTC TGTACTTCTT
 CTTGGCCCAT CTCACTTCTT GAAACACCCC TGAAGAGGGT TGCTTATCTT GATGGAAGTCA AAAAGCCAA
 45 AAAGCTGCAG GCAGAGGCGT TGAGGACATC TGTGGGGGA ACTAAGAGCA GCAGCACTTT CAGATTTCAGT
 CCATATAGAG CTGTCTTACA GCATTCTGGA AACTTGAGGA TGTGCGGTGC ATAAAGGGGC TGGAAGTGAC
 CCACCTGTGA TGAGCCCTTT CTAAGGAGAA GGGTTTCCAA GAGATCACCC CACCAGAAAA GGGTAGGAAT
 GAGCAAGTTG GGAATTTTAG ACTGTCACTG CACATGGACC TCTGGGAAGA CGTCTGGCGA GAGCTAGGCC
 CACTGGCCCT ACACACGGAT CTGCTGGCT CACCTGTCCC TGTGGAGGTT CCCCTGGGAA GGCAAGATGC
 50 CCAACAACAG CACTGCTCTG CGAATTCGGG GGACATCTGT TTGGGAACT AAGAGCAGCA GCACTTTCAG
 ATTCAGTCCA TATAGAGCTG TCCTACAGCA TTCTGGAAAC TTGAGGATGT GCGGTGCATA AACGGGCTGG
 AAGTGACCCA CCTGTGATGA GCCCTTTCTA AGGAGAAGGG TTTCCAAGAG ATCACCCAC CAGAAAAGGG

00440 " 6494560

TAGGAATGAG CAAGTTGGGA ATTTTAGACT GTCACTGCAC ATGGACCTCT GGGAAAGACGT CTGGCGAGAG
 CTAGGCCAC TGGCCCTACA GACGGATCTT GCTGGCTCAC CTGTCCCTGT GGAGGTTCCC CTGGGAAGGC
 AAGATGCCCA ACAACAGCAC TGCTCTGTCA TTGGCCAATG TTACCTACAT CACCATGGAA ATTTTCATTG
 GACTCTGCGC CATAGTGGGC AACGTGCTGG TCATCTGCGT GGTCAGCTG AACCCAGCC TGCAGACCAC
 5 CACCTTCTAT TTCATTGTCT CTCTAGCCCT GGCTGACATT GCTGTTGGGG TGCTGGTCAT GCCTTTGGCC
 ATTGTTGTCA GCCTGGGCAT CACAATCCAC TTCTACAGCT GCCTTTTAT GACTTGCCTA CTGCTTATCT
 TTACCCACGC CTCATCATG TCCTTGCTGG CCATCGCTGT GGACCGATAC TTGCGGGTCA AGCTTACCGT
 CAGATACAAG AGGGTCACCA CTCACAGAAG AATATGGCTG GCCCTGGGCC TTTGCTGGCT GGTGTCATTG
 CTGGTGGGAT TGAACCCCAT GTTTGGCTGG AACATGAAAC TGACCTCAGA GTACCACAGA AATGTCACCT
 10 TCCTTTCATG CCAATTGTGTT TCCGTCATGA GGATGGACTA CATGGTATAC TTCAGCTTCC TCACCTGGAT
 TTTTCATCCC CTGTTGTGCA TGTGCGCCAT CTATCTTGAC ATCTTTTACA TCATTGCGAA CAAACTCAGT
 CTGAACTTAT CTAATCTCAA AGAGACAGGT GCATTTTATG GACGGGAGTT CAAGACGGCT AAGTCCTTGT
 TTCTGGTTCT TTTCTGTTT GCTCTGTCAT GGCTGCCTTT ATCTCTCATC AACTGCATCA TCTACTTTAA
 TGGTGAGGTA CCAAGCTTG TGCTGTACAT GGGCATCCTG CTGTCCCATG CCAACTCCAT GATGAACCTT
 15 ATCGTCTATG CCTATAAAAT AAAGAAGTTC AAGGAAACCT ACCTTTTGAT CCTCAAAGCC TGTGTGGTCT
 GCCATCCCTC TGAATCTTTG GACACAAGCA TTGAGAAGAA TTCTGAGTAG TTATCCATCA GAGATGACTC
 TGTCTCATTG ACCATCAGAT TCCCATCAA CAAACACTTG AGGGCCTGTA TGCCTGGGCC AAGGGATTTT
 TACATCCTTG ATTACTTCCA CTGAGGTGGG AGCATCTCCA GTGCTCCCA ATTATATCTC CCCCCTCCA
 CTACTCTCTT CCTCACTTC ATTTTTCCTT TGTCTTTCT CTCTAATTCA GTGTTTGGGA GGCCTGACTT
 20 GGGGACAACG TATTATTGAT ATTATTGTCT GTTTTCCTT TCCCAATAG AAGAATAAGT CATGGAGCCT
 GAAGGGTGCC TAGTGTACTT ACTGACAAAA GGCTCTAGTT GGGCTGAACA TGTGTGTGGT GGTGACTCAT
 TTCCATGCCA TTGTGGAATT GAGCAGAGAA CCTGCTCTCG GAGGATGCCT AGGAGATGTT GGGAAACAGAA
 GAAATAAACT GAGTTAAGG GGGACTTAAA CTGCTGAATT CAAATGATAGA CCGTCAATAA TTTGTTAAAT
 GCTTTTAAA ATGAATGCTT TAAGCCGGGT GCAGTGCCTC ACATCTGTAA TCCCAGCACT TTGGAGCCGA
 25 GCGGGTGGAT TGTGTGAGGT CAGGAGTTCG AGACCAACCT GGCCAACATG GCAAAACCTC ACTCTCTACC
 AAAAAACAA AAATAGCCA GGCATGGTGG CAGGCACCTG TGATCCCAGC TACTCAGGAG GCTGAGACAG
 GAGAATCGCT TGAACCCGGG AGGCAAGGTT GCAGTGAGCC AAGATTACGC CATTGTACTC CAGCCTGGGT
 GACAGAGAGA GACICCGTCT CAAAAAATAA AAAAAAATAA AAAAAATTAC GCTTCAAACA CATGATCTCT
 CACCACTGTT GAAATTTCTT TCTATGAGCC CAGGAGGGCC TCTCAGAGAG GAAAGCTCCT AGGTCTTCTC
 30 TTCCCTCTGC AAATCCCTG CCTTGAAGGT TCAGAAGGAC TGTGCGTGCT CGTTGCATCC TTTGCAAGTG
 TCCAAACCTT GATCCAGCT GTGCTTAGGG GTTCTGCAA ACCTTTTCCA GGTGTTAATT ACCTCCCACT
 TCATTTCTG TTAACCACT CAGCTTTTGT TTTTAGTGTG TTTGAATTCC CTGAACTGAC CGTTGTCTGA
 TCTCCACCT CCACTGAAT TAGGGGAGCT GGGCTTCTGG AAACCCAGGT GCCGGGTGTT GCAGAGTGGC
 TGAAAGCTGG GATGTGGCAG ATCCGTGGCT ACATTCATGC ACACACACAC ACCACATAC CCACACATGC
 35 ACACACACAC ACAACCCGC ACTCACACAC TTGGACATGC ATAGACCACA GCTTTCCACA CCCTTCTAG
 ACAGGGGTCA CTGTGTATCC TGGAGAGAGT GTGAAGTCTT GGAATGGAAA GAGGGGGGAT TAAGCCCCAC
 CTCTAGCCAT GGGACTGAGA CAAGTCACCA CCAACCCATC TGCCTTGT TTACCTCTC TGTGAGGCAA
 GCACAGAGCC CATGCTGCC CCCCTGGATG GGAGTGATGT GAAACTTGAA GGGCGGTGAG AGCAAGGGTC
 GGGAAATGGAA GGCCTTGGG AAAAAAGGCC CTTTCAACTA GGGGCACAGA GGAGGCCCTG GGCTGAGAAC
 40 TTGACAGCAC CTCTTAATTG GTAAGCCAAG CCCGAAGGGA CTGGAAATAC TCAGATGTGT CTGTCTCCCT
 TATTAGGTTT AAAGTCCCTC AAGACCCTGT CTCCATCACA GTGCTCCAGT CCAGACCCTT CCTCTGAGCT
 CCAGACCCTG CTGACCCAA CCAGCCCTAT GGGGTGCGAT CCCCACCTGC CTGGAATTCT CCAAAGAACC
 TCCCCTTTAA CAGTCCAGC CTTAACAGT TCCAGTCTAA ACACATGACC TTTCTCTCT AAATCAGCCC
 CCCATCTCTG CCTTTCAGG AGATGGAAGC CATGACACCT GCCTCGCCCC TGTCTCACC CCATCCATGT
 45 CCAATCAAGC ACTAGGCATG TCAGGTTTAC CCTCTAAACT CCTCTGGAAT CCAGTCTCTC AGTCTCCATC
 ATCCCAGGTC GAAGCTAATG GGCTAACTGG TCCTTGCTTC CACTTACCC CCAGTGCAGT CCTGACTTCC
 TGAGCAGCAG CCAAGGCCTA ATCGATATTC ACACCAAGCG CCAACCTGAC TGAGATATCC TCTGCACCA
 TCATCCCTCC ACCCTGTTTA GTTCTGTCTA CCCTCAGTGT TCTCATCAAT AATCCACTCC CCTCACAGGC
 GCGTTTGGGA CCCCATGTTT TATGCTCTCA CAGGACCTTT TGCTTGATTT TCACTGTAC TTAGGTCAGT
 50 TTGCAATTAT TAACGTACTG AGCAATGTCT GGCTTCTCCA GTAGACTGTC AGCTCTAGC CATTGTATAC
 CTAGCACCGC TGTC TGGGAG CACGTGACAA ACGTCCAGTG AGTCAGGGAC TCAGCAGTCT CCATTTCTCC
 GCCCTGCTGG AGAATGCGTG TATTTGGCAA TCCCAGCCC CTGTGCCATC TAACCATCTT TTCTTCTCTG

004040" 62964560

TTCAGCCCAG GTGTGGCCTC ACTCACATCC CACTCTGAGT CCAAATGTTC TCTCCCTGGA AGATATCAAT
 GTTCTGTCT GTTCTGTAGG ACTCCGTGCC CACCACGGCC TCTTTCAGGT GAGTCAAAGG GATTCTCAG
 TTCCTAGTT AGGGGAGGTG GGCAGACACC CTGGAGAACT CCCTGGAAAAG CTCAACTCTC ATGCCCCGGA
 CAACAGTTGA AGGAACCATG GTGATGTTAA GCCCAAAGAC AAAACCTCTC AGGTGTCCAA GTCCCTGTTG
 5 GAATCTTGGG AGCAGAGGGA ATGTTCTGTG GTCTAGAGGA AGAGGGGCTC AGGGAGGAGA AGGGCACATT
 CCTGGTTGTT ATATGTTTCT ATCTATCCCA GATGAACTTG GAAGTGAAGG GAAGAGAGTT AAACATTAAA
 GTAAATACCC AGTGGATCAG ACAGCAATGT GCCAGATTGC CTTGGAAAACA AAATATCTCC AACACATGGC
 TGACATTTGG TGGCAGATCA GAACACCCTA AAGAGAGAAT TTAAGGGGAG GGGGAGGAGG ACCTGAGCCA
 GAGTAGAAGC AGAGGATAGG GAGATCTGTT CTTGGGGACA GCATTGCAA GAAACAAGGC TGAGGGGTCC
 10 ACTCCAACCT CTCACCCCTG CTGCAGGTGC TGCCTATGAT GAAGATGAGC AGATGGCCAT CTCAGCTGGG
 GCCACAGTGC ACTGACCTA TAGTTTCCAA TTCCGCACTC AGCAGGCATC TTTCTGATGA TCCGATGGCT
 TCTCAGAGCC AGGGATGGGC CAGGATCCAT CCCCTTGGCT ACTGTCTTGC TGAGAAATTT ATAAGCAGCA
 TCTGGTGCTA TACTTGGTCT TCTAGTGAGT TAGCTCATGA AAGATGATAG ACTCTCCAAG CCAGGGGTAT
 GCAGGAAATG GGTCTTCTGT AGCTACAGAA ATGGGGTTGA GGGTTGGACC AAGGGACTAC CCAGGGGAAG
 15 TCTTACCTTC AGACGACTCT GGAAAGGAGG CTGCAAGTTT TCATGGGTCA AGAATTCAGA GCCCAGTAGA
 GACAGCTTAT CTCGTGTCCA AGATGTCTGG GGCCTTGGTT GGAAGATTCA AAGGCTAGGA AACCAGGAGC
 CACCAAAAGC GTAACCTGGG CCAGAGGATC CACTTCAAG GTGGCAAGTT GGTCCCCC ATGTGGCTGC
 TTGAGTATCC TCACATGGCG GCTCACATCC TTCCAAGTAA GCAATGCAAA AGGCCAAGAA AGATGCTGCA
 AAGATGTTAT GACCTAGCCT CAGAAATCAC ACACCATCCC TGCCACCATT AGTAAGAAGT CCAGCCCACG
 20 TCCAGGAGAA GAGGAAGCAG ATTCTCCTT TTGAAATGAA GAATATCAAG TAATTCGGGG GGCATATGAA
 AGCCACCACA CACACAGGG ATCTTTTAG AGCATACTT TTATACCATC ACTGTAGTTC CTTAAGACTC
 AGGGGCAAAAG CCTCACTCC TTAGCACCCA GTGAAGACCA CGCTTACTCC CTCCTCAAC CTCTTGCTAC
 TTCCACCTC TCTGTCCAA CATCTAGTGT CACTTCCAG AACATACCA CAGCTTCCC AGTTCTGTGC
 CTCTGCTCAG GCTGTCCCC CTGCCTGGTC CACTTGTCT CTTCTTGTG CGGTCAAAAT GCTTCTTATC
 25 CTTCAAGACC CAGCTCTAGA GTCACCTCCA ACCCCTTACC CACCAGCCCC CTCTCCAAGT CTGTGTCCCA
 CAACCCCCCT GTCCTCTCCA GGGCACCTC CACCCTCTGG GCCACAGTTG TCAGGAGTCA GGCAGGGCAG
 GGGCCGGGTG GTGCTTCTT TGTGTTCTTG CACTCAGGGC AGAGCTCAGC ACAGAGCAGA CGCTCAAAAA
 ACATTTAAAG GATAGAAGCA TTGATTGTG GGTCCCCCAG TCTGGCTCCA GGATGCCAGC CAGCTGCTCC
 TAGAAGCAAA CGGACTTTTC CTGGGAAATC CCAGAGGTGA TGATCAGTAA TCTCTCCCGT GACTCGTAGT
 30 TCAGCTCTTC CTCCATGAGC CTGACTATCA GTGGACCTTC CAGAAAGAGC CCCTTTTCTT TCTCTACCC
 ACAGCACAGG GCACTGGGAA AATGCCCAAT GAGTCTGCC TCTGGGTTGT GCTTTGGACT TTTCAGTGTG
 TCTCGCATCC ACTCTTCAAC TTGAATGTTG CAACAGCCAT GAAAAAAGAA ATGCAAAGCG ATTCAGGATG
 AGAGCAATAC CCTACTCCAA AGAAGGCAAC ATAGAAGCTC AGAGAGATCA AGCAATTTGC CCAAGACCAC
 ACAGCTAGGA GTGGAACCTA TGGCTGTCCA AGCCCCATGC CTCTGCTGAA GGTAAGATG AATTACAGCA
 35 ACAAGTCTAG AAAGGTGCCT GCCCTATGGT CTGTGAGTCT TGCCTAAGAA TGAAAGAGGA GCCAGTGGGT
 TAAAGATGAG GTCACCAACA ACGGTGGTGT TGGAGTTTAC CACTGATAAT AAGGGTGCAA AATGTAAATT
 ACTAATGTTT ATTCAGCCTA GTGCAGTGGC TGGGGCATT TGCACATTGT CTCTGATCCC TATGACAACC
 CTGAGAGGTA GTGTTTAA CTGCCATGTT ACAGGTGAGG TCATTGTGGT TCAAGGACGT TAAGTAACTT
 CCCCAGCGTG ACACGGCTTA TAAGTAAGGC AGCCAGGATG TGAACCCAGT AGGACTATCT GGCTGCAAAG
 40 TCCCCACCC CCTCGCCATC TGTATCTCC AATCACTTCA GTGCTTTGCT GCATAGAAGG TAACGGAAAT
 CACGATGCCA CAGCTGTGCC AGGAAGACAG AAACCTAGGCA GATGGGCTGG CCATGGTCTC CAAGCCAGAC
 TGGAATCTCC AGGCTGGAA TGATATCATT TTTCTCTTT AATAAATTAA CTCACCCACC ACACGGCTTT
 GAGAGGCTCA AAGCTGACCA ACTCCCTGG GAGGGCCCCG GTTGATAAGG AAGGAACGTG AATCCTCCCA
 TCACGGAAGC TTCAGGAGG TCAAGGGTCC AACACTTGAG ATTGTTAGTG CTGTTGGTGG ATACTGGCCA
 45 AGGAAATATC CCACCTGGAGC CTCGAGATGA AGAACATGAG GCCCCGTTT AGAACCAAGG ATCAGAGGGG
 GCTCTGTAAG ACCCAGGGGA GTCAGGTGCA CTGGAGCGCG GGCATGCAGA AAACAGCCTG AGCTCCACCT
 CGGCTTCTCC TTGCTCTGGC TGGTTGTCT TAACCCCTGT CTCTTCTGG ACCAGTTTTT GTCCTTCCCT
 TGTGACCGCT GAGGGGTAAC AGCCTCTTTC CACTTCTTT CAGCGCCGAC ATGCTCAATG TCACCTTGCA
 AGGGCCCACT CTTAACGGGA CCTTGGCCCA GAGCAAATGC CCCCAGTGAG AGTGGCTGGG CTGGCTCAAC
 50 ACCATCCAGC CCCCCTTCTCT CTGGGTGCTG TTCGTGCTGG CCACCCTAGA GAACATCTTT GTCCTCAGCG
 TCTTCTGCCT GCACAAGAGC AGCTGCACGG TGGCAGAGAT CTACCTGGGG AACCTGGCCG CAGCAGACCT
 GATCCTGGCC TGCCGGCTGC CCTTCTGGGC CATCACCATC TCCAACAAC TCGACTGGCT CTTTGGGGAG

004040 " 62964560



5	ACGCTCTGCC	GCGTGGTGAA	TGCCATTATC	TCCATGAACC	TGTACAGCAG	CATCTGTTTC	CTGATGCTGG
	TGAGCATCGA	CCGCTACCTG	GCCCTGGTGA	AAACCATGTC	CATGGGCGCG	ATGCGCGGCG	TGCGCTGGGC
	CAAGCTCTAC	AGCTTGTTGA	TCTGGGGGTG	TACGCTGCTC	CTGAGCTCAC	CCATGCTGGT	GTTCGGGACC
	ATGAAGGAGT	ACAGCGATGA	GGGCCACAAC	GTCAACCGCTT	GTGTCATCAG	CTACCCATCC	CTCATCTGGG
	AAGTGTTCAC	CAACATGCTC	CTGAATGTCT	TGGGCTTCCT	GCTGCCCTTG	AGTGTTCATCA	CCTTCTGCAC
	GATGCAGATC	ATGCAGGTGC	TGCGGAACAA	CGAGATGCAG	AAGTTCAAGG	AGATCCAGAC	GGAGAGGAGG
	GCCACGGTGC	TAGTCCTGGT	TGTGCTGCTG	CTATTCATCA	TCTGTGGCT	GCCCTTCCAG	ATCAGCACCT
	TCCTGGATAC	GCTGCATCGC	CTCGGCATCC	TCTCCAGCTG	CCAGGACGAG	CGCATCATCG	ATGTAATCAC
10	ACAGATCGCC	TCTTCATGG	CCTACAGCAA	CAGCTGCCTC	AACCCACTGG	TGTACGTGAT	CGTGGGCAAG
	CGCTTCCGAA	AGAAGTCTTG	GGAGGTGTAC	CAGGGAGTGT	GCCAGAAAGG	GGGCTGCAGG	TCAGAACCCA
	TTCAGATGGA	GAACTCCATG	GGCACACTGC	GGACCTCCAT	CTCCGTGGAA	CGCCAGATTG	ACAAACTGCA
	GGACTGGGCA	GGGAGCAGAC	AGTGAGCAAA	CGCCAGCAGG	GCTGCTGTGA	ATTTGTGTAA	GGATTGAGGG
	ACAGTTGCTT	TTCAGCATGG	GCCCAGGAAT	GCCAAGGAGA	CATCTATGCA	CGACCTTGGG	AAATGAGTTG
15	ATGTCTCCGG	TAAACACCCG	GAGACTAATT	CCTGCCCTGC	CCAATTTTGC	AGGGAGCATG	GCTGTGAGGA
	TGGGGTGAAC	TCAAGCACAG	CCAAGGACTC	CAAAATCACA	ACAGCATTAC	TGTTCTTATT	TGCTGCCACA
	CCTGAGCCAG	CCTGCTCCTT	CCCAGGAGTG	GAGGAGGCCT	GGGGGCAGGG	AGAGGAGTGA	CTGAGCTTCC
	CTCCCGTGTG	TCTCCGTCC	CTGCCCCAGC	AAGACAACCT	AGATCTCCAG	GAGAACTGCC	ATCCAGCTTT
	GGTGCAATGG	CTGAGTGAC	AAGTGAGTTG	TTGCCCTGGG	TTTCTTTAAT	CTATTGAGCT	AGAACTTTGA
20	AGGACAATTT	CTTGATTA	TAAAGGTTAA	GCCCTGAGGG	GTCCCTGATA	ACAACCTGGA	GACCAGGATT
	TTATGGCTCC	CCTCACTGAT	GGACAAGGAG	GTCTGTGCCA	AAGAAGAATC	CAATAAGCAC	ATATTGAGCA
	CTTGCTGTAT	ATGCAGTATT	GAGCACTGTA	GGCAAGAGGG	AAGAAAGAGA	AGGAGCCATC	TCCATCTTGA
	AGGAACTCAA	AGACTCAAGT	GGGAACGACT	GGGCACTGCC	ACCACCAGAA	AGCTGTTTGA	TGAGACGGTC
	GAGCAGGGTG	CTGGGGTGA	TATGGACAGC	AGAAGGGGGA	GCCAGGTTCC	AGCTCACCAA	TACTATTGCA
25	CACCACCTGT	CCTGCCTC	GCCCTTCAA	GATGAGCTGT	TCCCGCCGCC	ACTCCAGCTC	TGGCTTCTGG
	GCTCCGAGGA	GGGGTGGGGA	CGGTGGTGAC	GGTGGGGACA	TCAGGCTGCC	CCGCAGTACC	AGGGAGCGAC
	TGAAGTGCCC	ATGCCGCTTG	CTCCGGAGAA	GGTGGGTGCC	GGGCAGGGGC	TGCTCCAGCC	GCCTCACCTC
	TGCTGGGAGG	ACAACCTGTC	CCAGCACAGA	GGGAGGGAGG	GAGGGCAGGC	AGCGGGGAGA	AGTTTCCCTG
	TGGTCGTGGG	GAGTGGAGCTTCA	ATATTTTAGT	GAAAGCTATA	GATGAGGCTC	CATAGGGGAT	AAAGCACAGA
30	CACACCTTTT	CAGAGGGCTT	GTGGACTCTG	GGCAGCCTGT	CCATAGACCT	CTGTCCCAA	CTGGCAAGTC
	AGGAAACTCC	AGATAAGGA	GCCCCAATGT	GTTTGAACAG	CCAGGTGCAC	AGATGAGTCA	ACCACACAGC
	CAGGCCAGGG	AGGTCCTTCA	CTCAAGAGCC	TACAGCCAGT	TCACAGCCAA	GCCAGGGCTA	GCGCCAGGCC
	ACCCATAAAC	TGATCTGAGA	CTCTGTTTCC	CTGTCTCCAT	GATGATGGGA	TCAGGCTTGA	TTGCTGTTTT
	GTAGGCTTGT	TATCAATCAA	GTCACAGGGA	AGAGGAGCTG	ATGGGCTGGG	GGGACGTCCT	CTGGCCCTCC
35	TGTCTCTTCC	CCACATCCAC	TGGGCCCACT	CTTATCTGTT	CTCTTCTGAA	GGAAGGGTTT	TAAGGCTTCA
	AAAAAAAATG	TTTGAAGT	CCCTGCCCTT	TCCAGCTCCT	ACCGTCTCAG	CCCTGGGAGT	GTAAAGTGCT
	GCAGATAGTT	AGTAGTCTT	TGAGCAAAAC	TGAGAAAGCC	AGCCTGAGCC	TTGACATGGG	AGAAACCTCC
	GCCATACATC	TCCGAAGAAA	CGGCCGCGTG	TCTCAGGGGA	GCGCAAACAC	CCGTACCCAG	GAAACAGGAC
	AGCTTCTGCC	ACTGTCGCCC	TTGGGAGCCG	TACGTGGCAT	GACAAAGAAA	TCCCAGGACT	CCGCCTGCCC
40	ACCTGGCCAC	CCTGTGTTTA	CACCTTCCGC	GTAACGCCC	ACTGTTTACA	TCCAAAACCTC	AGACACAAAA
	TAACCACCTC	AAGTAGATAA	ATAATGATAA	GAAATAAATG	TTACGCGAGG	CAAATTTATT	CACATGGGGC
	TTCCAGGCC	ACTTGTGGT	CAGCCGGGAG	GGACGTTTTT	GCCGTCCAC	GACTCCAACG	GGCAGCCGGG
	CCTACGCAAA	CATGAAATC	TTCCAAGAGC	CTCCCTGGCC	CCCAGGGCTC	AGAGGGTGCC	AGAGCGGAGA
	GCGAAGGTGG	CCGAGCCTT	CCCGGCCCA	CAGCCAGCCT	GGCTCCAGCT	GGGCAGGAGT	GCAGAGCTCA
45	GCTGGAGGCG	AGGGGGAAGT	GCCAGGAGG	CTGATGACAT	CACTACCCAG	CCCTTCAAAG	ATGAGCTGTT
	CCCGCCGCCA	CTCCAGCTCT	GGCTTCTGGG	CTCCGAGGAG	GGGTGGGGAC	GGTGGTGACG	GTGGGGACAT
	CAGGCTGCCC	CGAGTACCA	GGGAGCGACT	GAAGTGCCCA	TGCCGCTTGC	TCCGGAGAAG	GTGGGTGCCG
	GGCAGGGGCT	GCTCAGCCG	CCTCACCTCT	GCTGGGAGGA	CAAAGTGTCC	CAGCACAGAG	GGAGGGAGGG
	AGGGCAGGCA	GCGGAGAGAA	GTTTCCCTGT	GGTCGTGGGG	AGTTGGGAAA	AGTTCCCTTC	CTCCGGAGG
50	CAGATTCACA	AACTGCAGGA	CTGGGCAGGG	AGCAGACAGT	GAGCAAAACGC	CAGCAGGGCT	GCTGTGAATT
	TGTGTAAGGA	TTGAGGGACA	GTTGCTTTTC	AGCATGGGCC	CAGGAATGCC	AAGGAGACAT	CTATGCACGA
	CCTTGGGAAA	TGACTTGATG	TCTCCGGTAA	AACACCGGAG	ACTAATTCCT	GCCCTGCCCA	ATTTTGACAG
	GAGCATGGCT	GTGAGGATGG	GGTGAAGTCA				

Table 1. Demographic characteristics of the study population	
Total sample (n = 100)	
Age (years)	Mean (SD)
18-24	20.5 (2.5)
25-34	29.5 (3.5)
35-44	39.5 (4.5)
45-54	49.5 (5.5)
55-64	59.5 (6.5)
65-74	69.5 (7.5)
75-84	79.5 (8.5)
85-94	89.5 (9.5)
95-104	99.5 (10.5)
Gender	
Male	50 (50%)
Female	50 (50%)
Ethnicity	
White	60 (60%)
Black	20 (20%)
Hispanic	10 (10%)
Asian	5 (5%)
Other	5 (5%)
Education level	
High school or less	30 (30%)
Some college	20 (20%)
Bachelor's degree	20 (20%)
Master's degree	10 (10%)
PhD	10 (10%)
Income level	
< \$10,000	10 (10%)
\$10,000-\$20,000	20 (20%)
\$20,000-\$30,000	20 (20%)
\$30,000-\$40,000	20 (20%)
> \$40,000	30 (30%)
Marital status	
Married	40 (40%)
Single	20 (20%)
Divorced	10 (10%)
Widowed	10 (10%)
Never married	10 (10%)
Health status	
Good	60 (60%)
Fair	20 (20%)
Poor	10 (10%)
Very poor	5 (5%)
Unknown	5 (5%)



5	TCTTATTGTC	TGCCACACCT	GAGCCAGCCT	GCTCCTTCCC	AGGAGTGGAG	GAGGCCTGGG	GGGAGGGAGA
	GGAGTGACTG	AGCTTCCCTC	CCGTGTGTTT	TCCGTCCCTG	CCCCAGCAAG	ACAACTTAGA	TCTCCAGGAG
	AACTGCCATC	CAGCTTTGGT	GCAATGGCTG	AGTGCACAAG	TGAGTTGTTG	CCCTGGGTTT	CTTTAATCTA
	TTCAGCTAGA	ACTTGAAGG	ACAATTTCTT	GCATTAATAA	AGGTTAAGCC	CTGAGGGGTC	CCTGATAACA
	ACCTGGAGAC	CAGATATTTA	TGGCTCCCTT	CACTGATGGA	CAAGGAGGTC	TGTGCCAAAG	AAGAATCCAA
10	TAAGCACATA	TTGAGCACTT	GCTGTATATG	CAGTATTGAG	CACTGTAGGC	AAGACCCAAG	AAAGAGAAGG
	AGCCATCTCC	ATCTTGAAGG	AACTCAAAGA	CTCAAGTGGG	AACGACTGGG	CACTGCCACC	ACCAGAAAGC
	TGTTTCGACG	GACGGTCGAG	CAGGGTGCTG	TGGGTGATAT	GGACAGCAGA	AGGGGGAGAC	CAAGGTTCCA
	GCTCAACCAA	TAACTATTGC	ACAACCACCT	GTCCCTGCCT	CAGTTCCCTT	TTATGTAACA	TGAAGTCGTT
	GTGAGGGTTA	AAGGCAGTAA	CAGGTATAAA	GTACTTAGAA	AAGCAAAGGG	TGCTACGTAC	ATGTGAGGCA
15	TCATTACGCA	GACGTAACCT	GGATATGTTT	ACTATAAGGA	AAAGACACTG	AGGTCTAGAA	ATAGCTCCGT
	GGAGCAGAAT	CAGTATTGGG	AGCCGGTGCC	GGTGTGAAGC	ACCAGTGTCT	GGCACACAGT	AGGTGCTCAT
	TGGCTCCCTT	CCACCTGTCA	TTCCCACCAC	CCTGAGGCCC	CAACCGCCAC	ACACACAGGA	GCATTTGGAG
	AGAAGGCCAT	GTCCTCAAAG	TCTGATTTGT	GATGAGGCAG	AGGAAGATAT	TTCTAATCGG	TCTTGCCCAG
	AGGATCACAG	TGCTGAGACC	CCCCACCACC	AGCCGGTACC	TGGGAAGGGG	GAGAGTGCAG	GCCTGCTCAG
20	GGACTGTTCC	TGCTCAGCA	ACCAAGGGAT	TGTTCTGTCT	AATCAATGGT	TTATTGGAAG	GTGGCCCACT
	ATGAGCCCTA	GAAGAGTGTG	AAAAGGAATG	GCAATGGTGT	TCACCATCGG	CAGTGCCAGG	GCAGCACTCA
	TTCACTTGAT	AAATGAATAT	TTATTAGCTG	GTTGGAGAGC	TAGAACCTGG	AGAGCTAGAA	CCTGGAGAAC
	TAGAACCTGG	AGGGCTAGAA	CCTGGAGAGG	CTAGAACCAA	GAAGGGCTAG	AACCTGGAGG	GGCTAGAACC
	TAGAGAAGCT	AAAACCTGAG	CTAGAAGCTG	GAGGACTAGA	ACCTGGAGGG	CTGGAATCTG	AAGGGCTAGA
25	ACCTGGAGGG	CTGGAATCTG	GAGAGCTAGA	ACCTGGAGGG	CTAGAACCTG	GAGGGCTAGA	ACCTAGAAGG
	GCTAGAACCT	GGAGGGCTGG	AATCTGGAGA	GCTAGAACCT	GGAGGGCTAG	AACCTGGAGG	GCTAGAACCT
	AGAAGGGCTA	GAACCTGGAG	GGCTAGAACC	TGGCAGGTTA	GAACCTAGAA	GGGCTAGAAC	CTGGAGAGCC
	AGAACCTGGA	GGGCTAGAAC	CTGGAAGGGC	TAGAACCTGT	AGAGCTAGAA	CATGGAGAGC	TAGAACCCGG
	CAGGCTAGAA	CCTCGCAAGC	TAGAACCTGG	AGGGAATGAA	CCTGGAGGGG	TAGAACCTGG	AGAATGAGAA
30	AAATTTACAT	GGCAAGAGC	CCATAAATCC	TGACCAATCC	AACTCTGAAT	TTTAAAGCAA	AAGCGTGAAA
	AAAAAGATTC	CCTCCTTACC	CCCAACCCAC	TCTTTTTTCC	CACCACCCAC	TCTCCTCTGC	CTCAGTAAGT
	ATCTGGAGGA	AGAAACACAG	TGAAAGAAGA	AGTAAAAACC	ATTTAGTATT	AGTATTAGAA	TGAAGTCAAA
	CTGTGCCACA	CATCTGTAAT	GAACAAAAAA	AAAAAGAGGC	TGTGTTTTGT	CACACAGGGC	AGTCATTGAG
	CACCAGAGCA	CGTGATGGTC	TGAGACTCTC	TTAGGAGCAG	AGCTCTGCCG	CAATGGCCAT	GTGGGGATCC
35	ACACCTGGTC	TGACGGGCAA	CTGAGTCTGC	GGGAGAAGAG	CGGCCCTATG	CATGGTGTAG	ATGCCCTGAT
	AAAGAACATC	TGTCCTGTGA	AAGACTCAAT	GAGCTGTTAT	GTTGTAAACA	GGAAGCATT	CACATCCAAA
	CGAGAAAAATC	ATGTAAACAT	GTGTCTTTTC	TGTAGAGCAT	AATAAATGGA	TGAGGTTTTT	GCAAAAAAAA
	AAAAAAAAAA	AAATATATAGA	CCGTCAATAA	TTTGTTAAAT	GCTTTTTTAA	ATGAATGCTT	TAAGCCGGGT
	GCAGTGCCCTC	ACATCTGTAA	TCCCAGCACT	TTGGAGCCGA	GCGGGTGGAT	TGTGTGAGGT	CAGGAGTTCC
40	AGACCAACCT	GGCAACATG	GCAAAACCTC	ACTCTCTACC	AAAAATACAA	AAATTAGCCA	GGCATGGTGG
	CAGGCACCTG	TGATCCAGC	TACTCAGGAG	GCTGAGACAG	GAGAATCGCT	TGAACCCGGG	AGGCAAGGTT
	GCAGTGAGCC	AAGATTACGC	CATTGTACTC	CAGCCTGGGT	GACAGAGAGA	GACTCCGTCT	CAAAAAAAA
	AAAAAAAAAA	AAAAAATTAC	GCTTCAAACA	CATGATCTCT	CACCACTGTT	GAATTTTCTT	TCTATGAGCC
	CAGGAGGGCC	TCTCAGAGAG	GAAAGCTCCT	AGGTCTTCCT	TTCCCTCTGC	AAACTCCCTG	CCTTGAAGGT
45	TCAGAAGGAC	TGTGCTGTCT	CGTTGCATCC	TTTGCAAGTG	TCCAAACCTT	GATCCCAGCT	GTGCTTAGGG
	GTTCTCTCAA	ACCTTTTCCA	GGTGTTAATT	ACCTCCCACT	TCATTTCTCT	TTTACCAACT	CAGCTTTTTT
	TTTTAGTGTG	TTTGAAATTCC	CTGAACTGAC	CGTTGTCTGA	TCTCCACCTC	CCAACCTGAAT	TAGGGGAGCT
	GGGCTTCTGG	AAACCCAGGT	GCCGGGTGTT	GCAGAGTGGC	TGAAAGCTGG	GATGTGGCAG	ATCCGTGGCT
	ACATTTCATG	ACACACACAC	ACCCACATAC	CCACACATGC	ACACACACAC	ACACACCCGC	ACTCACACAC
50	TTGGACATGC	ATACACCACA	GCTTTCCACA	CCCTTCCTAG	ACAGGGGTCA	CTTGGTATCC	TGGAGAGAGT
	GTGAAGTCCT	GGAATGGAAG	GAGGGGGGAT	TAAGCCCCAC	CTCTAGCCAT	GGGACTGAGA	CAAGTCACCA
	CCAACCCATC	TGCCCTTGT	TTACCTCCTC	TGTGAGGCAA	GCACAGAGCC	CATGCCTGCC	CCCCTGGATG
	GGAGTGATGT	GAAACTTGAA	GGGCGGTGAG	AGCAAGGGTC	GGGAATGGAA	GGCCCTTGGG	AAAAAAGGCC
	CTTTCAACTA	GGGGCACAGA	GGAGGCCCTG	GGCTGAGAAC	TTGACAGCAC	CTTGTAATTG	GTAAGCCAAG
	CCCGAAGGGA	CTGGAAATAC	TCAGATGTGT	CTGTCTCCCT	TATTAGGTTT	AAAGTCCCTC	AAGACCCTGT
	CTCCATCACA	GTGCTCCAGT	CCAGACCCCT	CCTCTGAGCT	CCAGACCCCTG	CTGGACCCAA	CCAGCCCTAT

[illegible]

Parameter	Value	Unit
Temperature (K)	298	K
Pressure (atm)	1.0	atm
Concentration (mol/L)	0.1	mol/L
Time (s)	1000	s
Wavelength (nm)	450	nm
Path length (cm)	1.0	cm
Refractive index	1.33	-
Viscosity (cP)	0.01	cP
Density (g/cm³)	1.00	g/cm³
Surface tension (mN/m)	72.0	mN/m
Electrical conductivity (S/cm)	0.05	S/cm
Thermal conductivity (W/mK)	0.6	W/mK
Heat capacity (J/molK)	75.0	J/molK
Enthalpy of formation (kJ/mol)	-285.8	kJ/mol
Entropy (J/molK)	69.9	J/molK
Free energy of formation (kJ/mol)	-237.1	kJ/mol
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s⁻¹)	1.0e+10	s⁻¹
Equilibrium constant (K)	1.0	-
Reaction rate constant (s⁻¹)	0.01	s⁻¹
Activation energy (kJ/mol)	50.0	kJ/mol
Pre-exponential factor (s		



5	TTTCTCTTTT	AATAAATTAA	CTCACCCACC	ACACGGCTTT	GAGAGGCTCA	AAGTTGACCA	ACTCCCTTGG
	GAGGGCCCCG	GTTGATAAGG	AAGGAACGTG	AATCCTCCCA	TCACGGGAAGC	TTCAAGGAGG	TCAAGGGTCC
	AACACTTGAG	ATTGTTAGTG	CTGTTGTTGG	ATACTGGCCA	AGGAAATATC	CCAGTGGAGC	CTCGAGATGA
	AGAACATGAG	GCCCCGTTT	AGAACCAAGG	ATCAGAGGGG	GCTCTGTAAG	ACCCAGGGGA	GTCAGGTGCA
	CTGGAGCGCG	GGCATGACAG	AAACAGCCTG	AGCTCCACCT	CGGCTTCTCC	TTGTCTGGC	TGGTTGTCCT
10	TAACCCCTGT	CTCTTCTGG	ACCAAGTTTT	GTCCTTCCCT	TGTGACCGCT	GAGGGGTAAC	AGCCTCTTTC
	CACTTTCTTT	CAGCGCCGAC	ATGCTCAATG	TCACCTTGCA	AGGGCCCACT	CTTAACGGGA	CCTTTGCCCA
	GAGCAAATGC	CCCCAAGTGG	AGTGGCTGGG	CTGGCTCAAC	ACCATCCAGC	CCCCCTTCCT	CTGGGTGCTG
	TTCGTGCTGG	CCACCTTAGA	GAACATCTTT	GTCCTCAGCG	TCTTCTGCCT	GCACAAGAGC	AGCTGCACGG
	TGGCAGAGAT	CTACCTGGGG	AACCTGGCCG	CAGCAGACCT	GATCCTGGCC	TGCGGGCTGC	CCTTCTGGGC
15	CATCACCATC	TCCAACAAC	TCGACTGGCT	CTTTGGGGAG	ACGCTCTGCC	GCGTGGTGAA	TGCCATTATC
	TCCATGAACC	TGTAACAGCAG	CATCTGTTTC	CTGATGCTGG	TGAGCATCGA	CCGCTACCTG	GCCCTGGTGA
	AAACCATGTC	CATCGGCCCG	ATGCGCGGCG	TGCGCTGGGC	CAAGCTCTAC	AGCTTGGTGA	TCTGGGGGTG
	TACGCTGCTC	CTGAGCTCAC	CCATGCTGGT	GTTCCGGACC	ATGAAGGAGT	ACAGCGATGA	GGGCCACAAC
	GTCACCGCTT	GTGTCATCAG	CTACCCATCC	CTCATCTGGG	AAGTGTTCAC	CAACATGCTC	CTGAATGTCT
20	TGGGCTTCCT	GCTGCCCCTG	AGTGTTCATCA	CCTTCTGCAC	GATGCAGATC	ATGCAGGTGC	TGCGGAACAA
	CGAGATGCAG	AAGTCAAGG	AGATCCAGAC	GGAGAGGAGG	GCCACGGTGC	TAGTCTGGT	TGTGCTGCTG
	CTATTATCA	TCTGCTGGCT	GCCCTTCCAG	ATCAGCACCT	TCCTGGATAC	GCTGCATCGC	CTCGGCATCC
	TCTCCAGCTG	CCACGACGAG	CGCATCATCG	ATGTAATCAC	ACAGATCGCC	TCCTTCATGG	CCTACAGCAA
	CAGCTGCCTC	AACCACTG	TGTACGTGAT	CGTGGGCAAG	CGCTTCCGAA	AGAAGTCTTG	GGAGGTGTAC
25	CAGGGAGTGT	GCCAGAAAGG	GGGCTGCAGG	TCAGAACCCA	TTCAGATGGA	GAACCTCATG	GGCACACTGC
	GGACCTCCAT	CTCCGTGGAA	CGCCAGATTC	ACAAACTGCA	GGACTGGGCA	GGGAGCAGAC	AGTGAGCAAA
	CGCCAGCAGG	GCTGCTGTGA	ATTTGTGTAA	GGATTGAGGG	ACAGTTGCTT	TTCAGCATGG	GCCCAGGAAT
	GCCAAGGAGA	CATCTATGCA	CGACCTTGGG	AAATGAGTTG	ATGTCCTCGG	TAAAACACCG	GAGACTAATT
	CCTGCCCTGC	CCAAATTTTG	AGGGAGCATG	GCTGTGAGGA	TGGGGTGAAC	TCACGCACAG	CCAAGGACTC
30	CAAAATCACA	ACAACATTAC	TGTTCTTATT	TGCTGCCACA	CCTGAGCCAG	CCTGCTCCTT	CCCAGGAGTG
	GAGGAGGCCT	GGGGGCAGGG	AGAGGAGTGA	CTGAGCTTCC	CTCCCGTGTG	TTCTCCGTCC	CTGCCCCAGC
	AAGACAACCT	AGATCTCCAG	GAGAACTGCC	ATCCAGCTTT	GGTGCAATGG	CTGAGTGCAC	AAGTGAGTTG
	TTGCCCTGGG	TTTCTTTAAT	CTATTACAGCT	AGAACTTTGA	AGGACAATTT	CTTGCAATTA	TAAAGGTTAA
	GCCCTGAGGG	GTCCCTGATA	ACAACCTGGA	GACCAGGATT	TTATGGCTCC	CCTCACTGAT	GGACAAGGAG
35	GTCTGTGCCA	AAGAGAAATC	CAATAAGCAC	ATATTGAGCA	CTTGCTGTAT	ATGCAGTATT	GAGCACTGTA
	GGCAAGAGGG	AAGAAAGAGA	AGGAGCCATC	TCCATCTTGA	AGGAACTCAA	AGACTCAAGT	GGGAACGACT
	GGGCACTGCC	ACCAACAGAA	AGCTGTTCTG	TGAGACGGTC	GAGCAGGGTG	CTGTGGGTGA	TATGGACAGC
	AGAAAGGGGA	GCCAGGTTCC	AGCTCACCAA	TACTATTGCA	CACCACCTGT	CCTGCCTC	CTGCAGAAAA
	CAGCCTGAGC	TCCAACCTCG	CTTCTCCTTG	CCCTGGCTGG	TTGTCTTTAA	CCCCTGTCTC	CTTCTGGACC
40	AGTTTTTGTG	CTTCCCTTGT	GACCCTGAGG	GGTAACAGCC	TCTTTTCCAC	TTTCTTTTCA	CGCCGACATG
	CTCAATGTCA	CCTTCAAGG	GCCCACTCTT	AACGGGACCT	TTGCCAGAG	CAAATGCCCC	CAAGTGGAGT
	GGCTGGGCTG	GCTCAACACC	ATCCAGCCCC	CCTTCTCTCT	GGTGCTGTTT	GTGCTGGCCA	CCCTAGAGAA
	CATCTTTGTC	CTCAACCTCT	TCTGCCTGCA	CAAGAGCAGC	TGCACGGTGG	CAGAGATCTA	CCTGGGGAAC
	CTGGCCGCAG	CAGACCTGAT	CCTGGCCTGC	GGGCTGCCCT	TCTGGGCCAT	CACCATCTCC	AACAACCTCG
45	ACTGGCTCTT	TGGGGAGACG	CTCTGCCGCG	TGGTGAATGC	CATTATCTCC	ATGAACCTGT	ACAGCAGCAT
	CTGTTTCTCT	ATGCTGGTGA	GCATCGACCG	CTACCTGGCC	CTGGTGAAAA	CCATGTCCAT	GGGCCGGATG
	CGCGGCGTGC	GCTCGGCCAA	GCTCTACAGC	TTGGTGATCT	GGGGGTGTAC	GCTGCTCCTG	AGCTCACCCA
	TGCTGGTGTG	CCGGACCATG	AAGGAGTACA	GCGATGAGGG	CCACAACGTC	ACCGCTTGTG	TCATCAGCTA
	CCCATCCCTC	ATCTGGGAAG	TGTTACACAA	CATGCTCCTG	AATGTCTGGG	GCTTCTGTCT	GCCCCTGAGT
50	GTCATCACCT	TCTGCACGAT	GCAGATCATG	CAGGTGCTGC	GGAACAACGA	GATGCAGAAG	TTCAAGGAGA
	TCCAGACGGA	GAGGAGGGCC	ACGGTGCTAG	TCCTGGTTGT	GCTGCTGCTA	TTCATCATCT	GCTGGCTGCC
	CTTCCAGATC	AGCACTTCC	TGGATACGCT	GCATCGCCTC	GGCATCCTCT	CCAGCTGCCA	GGACGAGCGC
	ATCATCGATG	TAATCACACA	GATCGCCTCC	TTCATGGCCT	ACAGCAACAG	CTGCCTCAAC	CCACTGGTGT
	ACGTGATCGT	GGGCAAGCGC	TTCCGAAAAG	AGTCTTGGGA	GGTGTACCAG	GGAGTGTGCC	AGAAAGGGGG
	CTGCAGGTCA	GAACCCATTC	AGATGGAGAA	CTCCATGGGC	ACACTGCGGA	CCTCCATCTC	CGTGGAACGC
	CAGATTCACA	AACCTGCAGGA	CTGGGCAGGG	AGCAGACAGT	GAGCAAAACGC	CAGCAGGGGCT	GCTGTGAATT

[illegible]

TGTGTAAGGA TTGA.GGGACA GTTGCTTTTC AGCATGGGCC CAGGAATGCC AAGGAGACAT CTATGCACGA
 CCTTGGGAAA TGA.GTTGATG TCTCCGGTAA AACACCGGAG ACTAATTCCT GNCCTGCCCA ATTTTGCAGG
 GAGCATGGCT GTGA.GGATGG GGTGAACTCA CGCACAGCCA AGGACTCCAA AATCACAACA GCATTACTGT
 TCTTATTTGC TGCCACACCT GAGCCAGCCT GCTCCTTCCC AGGAGTGGAG GAGGCCTGGG GGCAGGGAGA
 5 GGAGTGACTG AGC.TTCCCTC CCGTGTGTTT TCCGTCCCTG CCCCAGCAAG ACAACTTAGA TCTCCAGGAG
 AACTGCCATC CAGC.TTTGGT GCAATGGCTG AGTGCACAAG TGAGTTGTTG CCCTGGGTTT CTTTAATCTA
 TTCAGCTAGA ACT.TTGAAGG ACAATTCTT GCATTAATAA AGGTTAAGCC CTGAGGGGTC CCTGATAACA
 ACCTGGAGAC CAGGATTTTA TGGCTCCCT CACTGATGGA CAAGGGAGGT CTGTGCCAAA GAAGAATCCA
 ATAAGCACAT ATT.CAGCACT TGCTGTATAT GCAGTATTGA GCACTGTAGG CAAGAGGGAA GAAAGAGAAG
 10 GAGCCATCTC CATCTTGAAG GAACTCAAAG ACTCAAGTGG GAACGACTGG CACTGCCACC ACCAGAAAGC
 TGTTTCGACGA GACCTGTCGAG CAGGGTGCTG TGGGTGATAT GGACAGCAGA AGGGGGAGAC CAAGGTTCCA
 GCTCAACCAA TAACTATTGC ACAACCACCT GTCCCTGCCT CAGTTCCCTC TTCTGTAACA TGAAGTCGTT
 GTGAGGGTTA AAGCTCAGTAA CAGGTATAAA GTACTTAGAA AAGCAAAGGG TGCTACGTAC ATGTGAGGCA
 TCATTACGCA GACCTAACTG GGATATGTTT ACTATAAGGA AAAGACACTG AGGTCTAGA TGATCCTATC
 15 ACAACCTGAG AGT.AGTTTTT ACTCCATTTA CAGGTGAGGT CATTGTGGTT CAAGGACGTT AAGTAACCTC
 CCCAGCTCAC ACGCTTATA AGTAAGGCAG CCAGGATGTG AACCCAGTAG GACTATCTGG CTGCAAAGTC
 CCCACCCTCC CTCC.CCATCT GTATCCTCCA ATCATCTTCA GTGCTTTGCT GATAGAAGGT ACGGAAATAC
 GATGCCACAG ACTC.TCCAGG AAGACAGAAA CTAGGCAGAT GGGCTGGCCA TGGTCTCCAA GCCAGACTGG
 AATCTCCAGG TCTC.GAATGA TATCATTTTT CTCTTTTAAT AAATTAACTC ACCCACCACA CGGCTTTGAG
 20 AGGCTCAAAG GTGA.CCAACT CCCTTGGGAG GGCCCGGTT GATAAGGAAG GAATGTGAAT CCTCCCATCA
 CGGAAGCTTC AAGCTAGGTCA AGGGTCCAAC ACTTGAGATT GTTAGTGCTG TTGGTGGATA CTGCAGAATA
 TCCAGTGGAG CCTCAGATGA AGAACATGAG GCCCCGTTTA GATCCAAGGA TCAGAGGGGG CTCTGTAAGA
 CCCAGGGGAG TCAGGTGCAC TGGAGCGCGG GCTGCAGAAA ACAGCCTGAG CTCCACCTCG GCTTCTCCTT
 GCCCTGGCTG GTTCTCCTTA ACCCTGTCT CTTCTGGAC CAGTTTTTGT CCTTCCCTTG TGACCTGAGG
 25 GGTAACAGCC TCT.TTCCAC TTTCTTTCAG CGCCGACATG CTCAATGTCA CCTTGCAAGG GCCCACTCTT
 AACGGGACCT TTGCCAGAG CAAATGCCCC CAAGTGGAGT GGCTGGGCTG GCTCAACACC ATCCAGCCCC
 CCTTCTCTG GGTGCTGTTC GTGCTGGCCA CCCTAGAGAA CATCTTTGTC CTCAGCGTCT TCTGCCTGCA
 CAAGAGCAGC TGCA.CGGTGG CAGAGATCTA CCTGGGGAAC CTGGCCGAG CAGACCTGAT CCTGGCCTGC
 GGGCTGCCCT TCTGGGCCAT CACCATCTCC AACAACCTCG ACTGGCTCTT TGGGGAGACG CTCTGCCGCG
 30 TGGTGAATGC CATATCTCC ATGAACCTGT ACAGCAGCAT CTGTTTCCTG ATGCTGGTGA GCATCGACCG
 CTACCTGGCC CTGGTGAAAA CCATGTCCAT GGGCCGGATG CGCGGCGTGC GCTGGGCCAA GCTCTACAGC
 TTGGTGATCT GGGG.TGTAC GCTGCTCCTG AGCTCACCCA TGCTGGTGT TCCGGACCATG AAGGAGTACA
 GCGATGAGGG CCACAACGTC ACCGCTTGTC TCATCAGCTA CCCATCCCTC ATCTGGGAAG TGTTACACAA
 CATGCTCCTG AATCTCGTGG GCTTCTGCT GCCCTGAGT GTCATCACCT TCTGCACGAT GCAGATCATG
 35 CAGGTGCTGC GGAA.CAACGA GATGCAGAAG TTCAAGGAGA TCCAGACGGA GAGGAGGGCC ACGGTGCTAG
 TCCTGGTTGT GCTGCTGCTA TTCATCATCT GCTGGCTGCC CTTCCAGATC AGCACCTTCC TGGATACGCT
 GCATCGCCTC GGCA.TCCTCT CCAGCTGCCA GGACGAGCGC ATCATCGATG TAATCACACA GATCGCCTCC
 TTCATGGCCT ACAGCAACAG CTGCCTCAAC CCACTGGTGT ACGTGATCGT GGGCAAGCGC TTCCGAAAGA
 AGTCTTGGGA GGTGTACCAG GGAGTGTGCC AGAAAGGGGG CTGCAGGTCA GAACCCATTC AGATGGAGAA
 40 CTCCATGGGC ACACTGCGGA CCTCCATCTC CGTGGAACGC CAGATTACAA AACTGCAGGA CTGGGCAGGG
 AGCAGACAGT GAGCAAAACGC CAGCAGGGCT GCTGTGAATT TGTGTAAGGA TTGAGGGACA GTTGCTTTTC
 AGCATGGGCC CAGCAATGCC AAGGAGACAT CTATGCACGA CCTTGGGAAA TGAGTGTTGA TGTCTCCGGT
 AAAACACCGG AGACTAATTC CTGCCCTGCC CAATTTTCGA GGGAGCATGG CTGTGAGGAT GGGGTGAACT
 CACGCACAGC CAACGACTCC AAAATCACAA CAGCATTACT GTTCTTATTT GCTGCCACAC CTGAGCCAGC
 45 CTGCTCCTTC CCAGGAGTGG AGGAGGCCTG GGGGAGGGAG AGGAGTGACT GAGCTTCCCT CCCGTGTGTT
 CTCCGTCCCT GCCC.CAGCAA GACAACCTAG ATCTCCAGGA GAACTGCCAT CCACGTTTGG TGCAATGGCT
 GAGTGACAAA GTGA.GTTGTT GCCCTGGGTT TCTTTAATCT ATCAGCTAGA ACTTTGAAGG ACAATTTCTT
 GCATTAATAA AGGTTAAGCC CTGAGGGGTC CCTTGATAAC AACCTGGAGA CCAGGATTTT ATGGCTCCCC
 TCACTGATGG ACAAGGAGGT CTGTGCCAAA GAAGAATCAA TAAGCACATA TGAGCACTTC TGTATATCAG
 50 TATTGAGCAC TGT.AGGCA ATGTTCTCTC CCTGGAAGAT ATCAATGTTT CTGTCTGTTT GTGAGGACTC
 CGTGCCCAAC ACGCCTCTT TCAGCGCCGA CATGCTCAAT GTCACCTTGC AAGGGCCAC TCTTAACGGG
 ACCTTTGCCC AGAGCAAATG CCCCCAAGTG GAGTGGCTGG GCTGGCTCAA CACCATCCAG CCCCCCTTCC

004040 " 6294560

TCTGGGTGCT GTTCGTGCTG GCCACCCTAG AGAACATCTT TGTCTCAGC GTCTTCTGCC TGCACAAGAG
 CAGCTGCACG GTGCGCAGAGA TCTACCTGGG GAACCTGGCC GCAGCAGACC TGATCCTGGC CTGCGGGCTG
 CCCTTCTGGG CCAATACCAT CTCCAACAAC TTCGACTGGC TCTTTGGGGA GACGCTCTGC CGCGTGGTGA
 5 ATGCCATTAT CTCCATGAAC CTGTACAGCA GCATCTGTTT CCTGATGCTG GTGAGCATCG ACCGCTACCT
 GGCCCTGGTG AAAAACCATGT CCATGGGCCG GATGCGCGGC GTGCGCTGGG CCAAGCTCTA CAGCTTGGTG
 ATCTGGGGGT GTACGCTGCT CCTGAGCTCA CCCATGCTGG TGTTCGGGAC CATGAAGGAG TACAGCGATG
 AGGGCCACAA CGTACCCGCT TGTGTCATCA GCTACCCATC CCTCATCTGG GAAGTGTTC CCAACATGCT
 CCTGAATGTC GTGCGCTTCC TGCTCCCCCT GAGTGTATC ACCTTCTGCA CGATGCAGAT CATGCAGGTG
 CTGCGGAACA ACGAGATGCA GAAGTTCAAG GAGATCCAGA CGGAGAGGAG GGCCACGGTG CTAGTCTTGG
 10 TTGTGCTGCT GCTATTTCATC ATCTGCTGGC TGCCCTTCCA GATCAGCACC TTCCTGGATA CGCTGCATCG
 CCTCGGCATC CTCTCCAGCT GCCAGGACGA GCGCATCATC GATGTAATCA CACAGATCGC CTCCTTCATG
 GCCTACAGCA ACAGCTGCCT CAACCCACTG GTGTACGTGA TCGTGGGCAA GCGCTTCCGA AAGAAGTCTT
 GGGAGGTGTA CCAAGGAGTG TGCCAGAAAAG GGGGCTGCAG GTCAGAACCC ATTCAGATGG AGAACTCCAT
 GGGCACACTG CGGACCTCCA TCTCCGTGGA ACGCCAGATT CACAACTGC AGGACTGGGC AGGGAGCAGA
 15 CAGTGAGCAA ACGCCAGCAG GGCTGCTGTG AATTTGTGTA AGGATTGAGG GACAGTTGCT T ATGTTCTCTC
 CCTGGAAGAT ATCAATGTTT CTGTCTGTTT GTGAGGACTC CGTGCCACC ACCGCTCTT TCAGCGCCGA
 CATGCTCAAT GTCACTTGC AAGGGCCAC TCTTAACGGG ACCTTTGCCC AGAGCAAATG CCCCCAAGTG
 GAGTGGCTGG GCTGGCTCAA CACCATCCAG CCCCCCTTCC TCTGGGTGCT GTTCGTGCTG GCCACCCTAG
 AGAACATCTT TGTCTCAGC GTCTTCTGCC TGCACAAGAG CAGCTGCACG GTGCGAGAGA TCTACCTGGG
 20 GAACCTGGCC GCAGCAGACC TGATCCTGGC CTGCGGGCTG CCCTTCTGGG CCATACCAT CTCCAACAAC
 TTCGACTGGC TCTTGGGGA GACGCTCTGC CGCGTGGTGA ATGCCATTAT CTCCATGAAC CTGTACAGCA
 GCATCTGTTT CCTGATGCTG GTGAGCATCG ACCGCTACCT GGCCCTGGTG AAAACCATGT CCATGGGCCG
 GATGCGCGGC GTGCGCTGGG CCAAGCTCTA CAGCTTGGTG ATCTGGGGGT GTACGCTGCT CCTGAGCTCA
 CCCATGCTGG TGTTCGGGAC CATGAAGGAG TACAGCGATG AGGGCCACAA CGTCACCGCT TGTGTCATCA
 25 GCTACCCATC CCTCATCTGG GAAGTGTTC CCAACATGCT CCTGAATGTC GTGGGCTTCC TGCTGCCCTT
 GAGTGTATC ACCTTCTGCA CGATGCAGAT CATGCAGGTG CTGCGGAACA ACGAGATGCA GAAGTTCAAG
 GAGATCCAGA CGGAGAGGAG GGCCACGGTG CTAGTCTGG TTGTGCTGCT GCTATTATC ATCTGCTGGC
 TGCCCTTCCA GATCAGCACC TTCCTGGATA CGCTGCATCG CCTCGGCATC CTCTCCAGCT GCCAGGACGA
 GCGCATCATC GATCTAATCA CACAGATCGC CTCCTTCATG GCCTACAGCA ACAGCTGCCT CAACCCACTG
 30 GTGTACGTGA TCGTGGGCAA GCGCTTCCGA AAGAAGTCTT GGGAGGTGTA CCAGGGAGTG TGCCAGAAAAG
 GGGGCTGCAG GTCAGAACCC ATTCAGATGG AGAACTCCAT GGGCACACTG CGGACCTCCA TCTCCGTGGA
 ACGCCAGATT CACAACTGC AGGACTGGGC AGGGAGCAGA CAGTGAGCAA ACGCCAGCAG GGCTGCTGTG
 AATTTGTGTA AGGATTGAGG GACAGTTGCT T GCCCTTCAAA GATGAGCTGT TCCCGCCGCC ACTCCAGCTC
 TGGCTTCTGG GCTCCGAGGA GGGGTGGGGA CGGTGGGGAC ATCAGGCTGC CCCGAGTAC CAGGGAGCGA
 35 CTGAAGTGCC CATGCCGCTT GTCCTGGAGA AGGTGGGTGC CGGGCAGGGG CTGTCCAGC CGCCTACCT
 CTGCTGGGAG GACAACTGT CCCAGCACAG AGGGAGGGAG GGAGGGCAGG CAGCGGGGAG AAGTTTCCCT
 GTGGTCTGTT GGAGTT GCCCTTCAAA GATGAGCTGT TCCCGCCGCC ACTCCAGCTC TGGCTTCTGG
 GCTCCGAGGA GGGCTGGGGA CGGTGGTGAC GGTGGGGACA TCAGGCTGCC CCGCAGTACC AGGGAGCGAC
 TGAAGTGCCC ATGCCGCTT TCCCGGAGAA GGTGGGTGCC GGGCAGGGG TGCTCCAGCC GCCTCACCTC
 40 TGCTGGGAGG ACAAACCTGTC CCAGCACAGA GGGAGGGAGG GAGGGCAGGC AGCGGGGAGA AGTTTCCCTG
 TGGTCTGTTG GAGTT GAGCTCTTCA ATATTTAGT GAAAGCTATA GATGAGGCTC CATAGGGGAT AAAGCACAGA
 CACACCTTTT CAGAGGGCTT GTGGACTCTG GGCAGCTGT CCATAGACCT CTGTCCCCAA CTGGCAAGTC
 AGGAAACTCC AGATTAAGGA GCCCAATGT GGTGAACAG CCAGGTGCAC AGATGAGTCA ACCACACAGC
 CAGGCCAGGG AGGCTCTTCA CTCAAGAGCC TACAGCCAGT TCACAGCCAA GCCAGGGCTA GCGCCAGGCC
 45 ACCCATAAAC TGATCTGAGA CTCTGTTTCC CTGTCTCCAT GATGATGGGA TCAGGCTTGA TTGCTGGTTT
 GTAGGCTTGT TATGAATCAA GTCACAGGGA AGAGGAGCTG ATGGGCTGGG GGGACGTCTT CTGGCCCTCC
 TGTCTCTTCC CCAGATCCAC TGGGCCACT CTTATCTGTT CTCTTCTGAA GGAAGGGTTT TAAGGCTTCA
 AAAAAAATG TTTTGAAGT CCCTGCCCTT TCCAGCTCCT ACCGTCTCAG CCCTGGGAGT GTAAAGTGCT
 GCAGATAGTT AGTAAGTCTT TGAGCAAAAC TGAGAAAGCC AGCCTGAGCC TTGACATGGG AGAAACCTCC
 50 GCCATACATC TCCGAGAGAA CGGCCGCGTG TCTCAGGGGA GCGCAACAC CCGTACCCAG GAAACAGGAC
 AGCTTCTGCC ACTGTCGCCC TTGGGAGCCG TACGTGGCAT GACAAAGAAA TCCCAGGACT CCGCTGCCCC
 ACCTGGCCAC CCTCTGTTTA CACCTTCCGC GTAAACGCCC ACTGTTTACA TCCAAAACCTC AGACACAAAA

004040 " 6 2 9 4 3 6 6

TAACCACCTC AAGAGATAA ATAATGATAA GAAATAAATG TTACGCGAGG CAAATTTATT CACATGGGGC
 TTCCCAGGCC ACTTGTGGT CAGCCGGGAG GGACGTTTTT GCCGTCCAC GACTCCAACG GGCAGCCGGG
 CCTACGCAAA CATCGAAATC TTCCAAGAGC CTCCCTGGCC CCCAGGGCTC AGAGGGTGGC AGAGCGGAGA
 GCGAAGGTGG CCGCAGCCTT CCCGGCCCCA CAGCCAGCCT GGCTCCAGCT GGCAGGAGT GCAGAGCTCA
 5 GCTGGAGGCG AGGGGAAGT GCCCAGGAGG CTGATGACAT CACTACCCAG CCCTCAAAG ATGAGCTGTT
 CCCGCCGCCA CTCCAGCTCT GGCTTCTGGG CTCCGAGGAG GGGTGGGGAC GGTGGTGACG GTGGGGACAT
 CAGGCTGCCC CGCAGTACCA GGGAGCGACT GAAGTGCCCA TGCCGCTTGC TCCGAGAAG GTGGGTGCCG
 GGCAGGGGCT GCTCAGCCG CCTCACCTCT GCTGGGAGGA CAAACTGTCC CAGCACAGAG GGAGGGAGGG
 AGGGCAGGCA GCGGAGAGAA GTTCCCTGT GGTCTGGGG AGTTGGGAAA AGTCCCTTC CTCCGGAGG GAGG
 10 CAGATTACA AACTGCAGGA CTGGGCAGGG AGCAGACAGT GAGCAAACGC CAGCAGGGCT GCTGTGAATT
 TGTGTAAGGA TTGAGGGACA GTTGCTTTT AGCATGGGCC CAGGAATGCC AAGGAGACAT CTATGCACGA
 CCTTGGGAAA TGAGTTGATG TCTCCGTAA AACACCGGAG ACTAATTCCT GCCCTGCCCA ATTTTGCAGG
 GAGCATGGCT GTGAGGATGG GGTGAACTCA CGCACAGCCA AGGACTCCA AATCACAACA GCATTACTGT
 TCTTATTTGC TGCCACACCT GAGCCAGCCT GTCCTTCCC AGGAGTGGAG GAGGCCTGGG GGGAGGGAGA
 15 GGAGTGAAGT AGCTCCCTC CCGTGTGTTT TCCGTCCCTG CCCAGCAAG ACAACTTAGA TCTCCAGGAG
 AACTGCCATC CAGCTTGGT GCAATGGCTG AGTGACAAG TGAGTTGTG CCCTGGGTTT CTTAATCTA
 TTCAGCTAGA ACTTGAAGG ACAATTTCTT GCATTAATAA AGGTTAAGCC CTGAGGGGTC CCTGATAACA
 ACCTGGAGAC CAGGATTTTA TGGTCCCTT CACTGATGGA CAAGGAGGTC TGTGCCAAG AAGAATCCAA
 20 TAAGCACATA TTGAGCACTT GCTGTATATG CAGTATTGAG CACTGTAGG CAGACCCAAG AAAGAGAAGG
 AGCCATCTCC ATCTGAAGG AACTCAAAGA CTCAAGTGGG AACGACTGGG CACTGCCACC ACCAGAAAGC
 TGTTGACGA GACGGTCGAG CAGGGTGCTG TGGGTGATAT GGACAGCAGA AGGGGGAGAC CAAGGTTCCA
 GCTCAACCAA TAACATTGTC ACAACCCTT GTCCCTGCTT CAGTCCCTT TTATGTAACA TGAAGTCGTT
 GTGAGGGTTA AAGCAGTAA CAGGTATAAA GTACTTAGAA AAGCAAAGGG TGCTACGTAC ATGTGAGGCA
 TCATTACGCA GACCTAAGT GGATATGTTT ACTATAAGGA AAAGACTG AGGTCTAGAA ATAGCTCCGT
 25 GGAGCAGAAT CAGATTGGG AGCCGGTGGC GGTGTGAAGC ACCAGTGTCT GGCACACAGT AGGTGCTCAT
 TGGCTCCCTT CCACCTGTCA TTCCACCAC CCTGAGGCC CAACCGCCAC ACACACAGGA GCATTTGGAG
 AGAAGGCCAT GCTTCAAAG TCTGATTTGT GATGAGGCAG AGGAAGATAT TTCTAATCGG TCTTGCCAG
 AGGATCACAG TGCTGAGACC CCCACCACC AGCCGGTACC TGGGAAGGGG GAGAGTGCAG GCCTGCTCAG
 GGACTGTTC TGCTCAGCA ACCAAGGGAT TGTTCTGTG AATCAATGGT TTATTGGAAG GTGGCCAGT
 30 ATGAGCCCTA GAACAGTGTG AAAAGGAATG GCAATGGTGT TCACCATCGG CAGTGCCAGG GCAGACTCA
 TTCATTGAT AAATGAATAT TTATTAGCTG GTTGAGAGC TAGAACCTGG AGAGCTAGAA CCTGGAGAAC
 TAGAACCTGG AGGCTAGAA CCTGGAGAGG CTAGAACCAA GAAGGGCTAG AACCTGGAGG GGCTAGAACC
 TAGAGAAGCT AAACTGAG CTAGAAGCTG GAGGACTAGA ACCTGGAGGG CTGGAATCTG AAGGGCTAGA
 ACCTGGAGGG CTGCAATCTG GAGAGCTAGA ACCTGGAGGG CTAGAACCTG GAGGGCTAGA ACCTAGAAGG
 35 GCTAGAACCT GGACGGCTGG AATCTGGAGA GCTAGAACCT GGAGGGCTAG AACCTGGAGG GCTAGAACCT
 AGAAGGGCTA GAACCTGGAG GGCTAGAACC TGGCAGGTTA GAACCTAGAA GGGCTAGAAC CTGGAGAGCC
 AGAACCTGGA GGGCTAGAAC CTGGAAGGGC TAGAACCTGT AGAGCTAGAA CATGGAGAGC TAGAACCCGG
 CAGGCTAGAA CCTGGCAAGC TAGAACCTGG AGGGAATGAA CCTGGAGGGC TAGAACCTGG AGAATGAGAA
 AAATTTACAT GGCAAGAGC CCATAAATCC TGACCAATCC AACTCTGAAT TTAAAGCAA AAGCGTGA
 40 AAAAAGATTC CCTCTTACC CCAACCCAC TCTTTTTC CACCACCAC TCTCTCTGC CTCAGTAAGT
 ATCTGGAGGA AGAAGACAGG TGAAAGAAGA AGTAAAAACC ATTAGTATT AGTATTAGAA TGAAGTCAAA
 CTGTGCCACA CATGGTGAAT GAAAAAAAAA AAAAAGAGGC TGTGTTTTGT CACACAGGGC AGTCATTACG
 CACCAGAGCA CGTATGGTC TGAGACTCTC TTAGGAGCAG AGCTCTGCCG CAATGGCCAT GTGGGGATCC
 ACACCTGGTC TGAGGGGCAA CTGAGTCTGC GGGAGAAGAG CGGCCCTATG CATGGTGTAG ATGCCCTGAT
 45 AAAGAACATC TGTCCTGTGA AAGACTCAAT GAGCTGTTAT GTTGTAACA GGAAGCATTT CACATCCAAA
 CGAGAAAATC ATGTAAACAT GTGTCTTTT TGTAAGCAT AATAAATGGA TGAGGTTTTT GCAAAAAAAA
 AAAAAAAA AAATGATAGA CCGTCAATAA TTTGTTAAAT GCTTTTAAA ATGAATGCTT TAAGCCGGGT
 GCAGTGCCTC ACATCTGTAA TCCAGCACT TTGGAGCCGA GCGGGTGGAT TGTGTGAGGT CAGGAGTTCG
 AGACCAACCT GGCCAAACATG GCAAAACCTC ACTCTTACC AAAAATACAA AAATTAGCCA GGCATGGTGG
 50 CAGGCACCTG TGATCCAGC TACTCAGGAG GCTGAGACAG GAGAATCGCT TGAACCCGGG AGGCAAGGTT
 GCAGTGAGCC AAGATTACGC CATGTACTC CAGCCTGGGT GACAGAGAGA GACTCCGTCT CAAAAAAA
 AAAAAAAA AAAAATTAC GCTTCAAACA CATGATCTCT CACCACTGTT GAATTTCTT TCTATGAGCC

004040 " 6 2 9 4 5 6 0



5	CAGGAGGGCC	TCTCAGAGAG	GAAAGCTCCT	AGGTCTTCCT	TTCCCTCTGC	AAACTCCCTG	CCTTGAAGGT
	TCAGAAGGAC	TGTGCGTGCT	CGTTGCATCC	TTTGCAAGTG	TCCAAACCCT	GATCCCAGCT	GTGCTTAGGG
	GTTCCTGCAA	ACC'TTTCCA	GGTGTTAATT	ACCTCCCACT	TCATTTCTGT	TTTACCAACT	CAGCTTTTGT
	TTTTAGTGTG	TTTGAATTCC	CTGAACTGAC	CGTTGTCTGA	TCTCCACCTC	CCAAGTGAAT	TAGGGGAGCT
	GGGCTTCTGG	AAAC'CCAGGT	GCCGGGTGTT	GCAGAGTGGC	TGAAAGCTGG	GATGTGGCAG	ATCCGTGGCT
10	ACATTTCATGC	ACAC'ACACAC	ACCCACATAC	CCACACATGC	ACACACACAC	ACACACCCGC	ACTCACACAC
	TTGGACATGC	ATAC'ACCACA	GCTTTCCACA	CCCTTCCTAG	ACAGGGGTCA	CTTGGTATCC	TGGAGAGAGT
	GTGAAGTCCT	GGA'ATGGAAG	GAGGGGGGAT	TAAGCCCCAC	CTCTAGCCAT	GGGACTGAGA	CAAGTCACCA
	CCAACCCATC	TGCC'CCTTGT	TTACCTCCTC	TGTGAGGCAA	GCACAGAGCC	CATGCCTGCC	CCCCTGGATG
	GGAGTGATGT	GAA'ACTTGAA	GGGCGGTGAG	AGCAAGGGTC	GGGAATGGAA	GGCCCTTGGG	AAAAAAGGCC
15	CTTTCAACTA	GGGC'ACAGA	GGAGGCCCTG	GGCTGAGAAC	TTGACAGCAC	CTTGTAAATTG	GTAAGCCAAG
	CCCGAAGGGA	CTGGAAATAC	TCAGATGTGT	CTGTCTCCCT	TATTAGGTTC	AAAGTCCCTC	AAGACCCTGT
	CTCCATCACA	GTGC'TCCAGT	CCAGACCCCT	CCTCTGAGCT	CCAGACCCTG	CTGGACCCAA	CCAGCCCTAT
	GGGGTCGCAT	CCCC'ACCTGC	CTGGAATTCT	CCAAAGAACC	TCCCCTTTAA	CAGTTCACAG	CTTTAACAGT
	TCCAGTCTAA	ACAC'ATGACC	TTTCTCCTCT	AAATCAGCCC	CCCATCTCTG	CCTTTGCAGG	AGATGGAAGC
20	CATGACACCT	GCC'ICGCCCC	TGTCTCACC	CCATCCATGT	CCAATCAAGC	ACTAGGCATG	TCAGGTTTAC
	CCTCTAAACT	CCTCTGGAAT	CCAGTCTCTC	AGTCTCCATC	ATCCCAGGTC	GAAGCTAATG	GGCTAACTGG
	TCCTTGCTTC	CACT'CTACCC	CCACTGCAGT	CCTGACTTCC	TGAGCAGCAG	CCAGGGCCTA	ATCGATATTC
	ACACCAAGCG	CCA'ACCTGAC	TGAGATATCC	TCCTGCACCA	TCATCCCTCC	ACCCTGTTTA	GTTCGTCTCA
	CCCTCAGTGT	TCTCATCAAT	AATCCACTCC	CCTCACAGGC	GCGTTTGGGA	CCCCATGTTT	TATGCTCTCA
25	CAGGACCTTT	TGCTTGATTT	TTCACTGTAC	TTAGGTCACT	TTGCAGTTAT	TAAGTGACTG	AGCAATGTCT
	GGCTTCTCCA	GTAGACTGTC	AGCTCCTAGC	CATTGTATAC	CTAGCACCAG	TGTGTGGGAG	CACGTGACAA
	ACGTCCAGTG	AGTC'AGGGAC	TCAGCAGTCT	CCATTTCTCC	GCCCTGCTGG	AGAATGCGTG	TATTTGGCAA
	TCCCCAGCCC	CTGIGCCATC	TAACCATCTT	TCTTCTCTG	TTCAAGCCAG	GTGTGGCCTC	ACTCACATCC
	CACTCTGAGT	CCA'ATGTTC	TCTCCCTGGA	AGATATCAAT	GTTTCTGTCT	GTTTCGTGAGG	ACTCCGTGCC
30	CACCACGGCC	TCTTTCAGGT	GAGTCAAAGG	GATTCTCTAG	TTCACTAGTT	AGGGGAGGTG	GGCAGACACC
	CTGGAGAACT	CCCTGGAAAG	CTCAACTCTC	ATGCCCCGGA	CAACAGTTGA	AGGAACCATG	GTGATGTTAA
	GCCCAAAGAC	AAA'ACCTCTC	AGGTGTCCAA	GTCCCTGTTG	GAATCTTGGG	AGCAGAGGGA	ATGTTCTGTG
	GTCTAGAGGA	AGAGGGGCTC	AGGGAGGAGA	AGGGCACATT	CCTGGTTGTT	ATATGTTTCT	ATCTATCCCA
	GATGAACTTG	GAAC'TGAAGG	GAAGAGAGTT	AAACATTAAA	GTAAATACCC	AGTGGATCAG	ACAGCAATGT
35	GCCAGATTGC	CTTGAAACAA	AAATATCTCC	AACACATGGC	TGACATTTGG	TGGGAGATCA	GAACACCCTA
	AAGAGAGAAT	TTA'AGGGGAG	GGGGAGGAGG	ACCTGAGCCA	GAGTAGAAGC	AGAGGATAGG	GAGATCTGTT
	CTTGGGGACA	GCAITTGCAA	GAAACAAGGC	TGAGGGGTCC	ACTCCAACCT	CTCCACCCTG	CTGCAGGTGC
	TGCCTATGAT	GAAGATGAGC	AGATGGCCAT	CTCAGCTGGG	GCCACAGTGC	ACTGGACCTA	TAGTTTCCAA
	TTCCGCACTC	AGCAGGCATC	TTTCTGATGA	TCCGATGGCT	TCTCAGAGCC	AGGGATGGGC	CAGGATCCAT
40	CCCCTTGGCT	ACTGTCTTGC	TGAGAAATTT	ATAAGCAGCA	TCTGGTGCTA	TACTTTGGTC	TCTAGTGAGT
	TAGCTCATGA	AAG'TGATAG	ACTCTCCAAG	CCAGGGGTAT	GCAGGAAATG	GGTTTTCTGT	AGCTACAGAA
	ATGGGGTTGA	GGGITGGACC	AAGGGACTAC	CCAGGGGAAG	TCTTACCTTC	AGAGGACTCT	GGAAAGGAGG
	CTGCAAGTTT	TCAT'GGGTCA	AGAATTGAGA	GCCAGTAGA	GACAGCTTAT	CTCTGTTCCA	AGATGTCTGG
	GGCCTTGGTT	GGAAGATTCA	AAGGCTAGGA	AACCAGGAGC	CACCAAAAGC	GTAAGTGGGG	CCAGAGGATC
45	CACTTTCAAG	GTGC'CAAGTT	GGTTCCCCCC	ATGTGGCTGC	TTGAGTATCC	TCACATGGCG	GCTCACATCC
	TTCCAAGTAA	GCAATGCAAA	AGGCCAAGAA	AGATGCTGCA	AAGATGTTAT	GACCTAGCCT	CAGAAATCAC
	ACACCATCCC	TGCCACCAAT	AGTAAGAAGT	CCAGCCCACG	TCCAGGAGAA	GAGGAAGCAG	ATTCTCTCTT
	TTGAAATGAA	GAATATCAAG	TAATTCGGGG	GGCATATGAA	AGCCACCACA	CACCACAGGG	ATCTTTTTAG
	AGCATACTTC	TTAT'ACCATC	ACTGTAGTTC	CTTAAGACTC	AGGGGCAAAAG	CCTCACTTCC	TTAGCACCCA
50	GTGAAGACCA	CGC'TACTCC	CTCACTCAAC	CTCTTGCTAC	TTCCACCTC	TCCTGTCCAA	CATCTAGTGT
	CACTTTCCAG	AAC'ATACCAA	CAGCTTCCCC	AGTTCTGTGC	CTCTGCTCAG	GCTGTTCCCC	CTGCCTGGTC
	CACTTGTCCT	CCTT'CTTGTC	CGGTCAAAAAT	GCTTCTTATC	CTTCAAGACC	CAGCTCTAGA	GTCACTTCCA
	ACCCCTTACC	CACCAGCCCC	CTCTCCAAGT	CTGTGTCCCA	CAACCCCCCT	GCTCCCTCCA	GGGCACCCTC
	CACCCTCTGG	GCCACAGTTG	TCAGGAGTCA	GGCAGGGCAG	GGGCCGGGTG	GTGTCTTCTT	TGTGTTCTTG
	CACTCAGGGC	AGAC'CTCAGC	ACAGAGCAGA	CGCTCAAAAA	ACATTTAAAG	GATAGAAGCA	TTGATTTGTG
	GGTCCCCCAG	TCTG3CTCCA	GGATGCCAGC	CAGCTGCTCC	TAGAAACAAA	CGGACTTTTC	CTGGGAAATC

[illegible]

[illegible][illegible]

CTGGCCGCAG CAGACCTGAT CCTGGCCTGC GGGCTGCCCT TCTGGGCCAT CACCATCTCC AACAACTTCG
 ACTGGCTCTT TGGGGAGACG CTCTGCCGCG TGGTGAATGC CATTATCTCC ATGAACCTGT ACAGCAGCAT
 CTGTTTCCTG ATGCTGGTGA GCATCGACCG CTACCTGGCC CTGGTGAAAA CCATGTCCAT GGGCCGGATG
 CGCGGCGTGC GCTC GGCCAA GCTCTACAGC TTGGTGATCT GGGGGTGTAC GCTGCTCCTG AGCTCACCCA
 5 TGCTGGTGTT CCGGACCATG AAGGAGTACA GCGATGAGGG CCACAACGTC ACCGCTTG TG TCATCAGCTA
 CCCATCCCTC ATCTGGGAAG TGTTCACCAA CATGCTCCTG AATGTCGTGG GCTTCCTGCT GCCCTGAGT
 GTCATCACCT TCTGACAGAT GCAGATCATG CAGGTGCTGC GGAACAACGA GATGCAGAAG TTCAAGGAGA
 TCCAGACGGA GAGGAGGGCC ACGGTGCTAG TCCTGGTTGT GCTGCTGCTA TTCATCATCT GCTGGCTGCC
 CTTCCAGATC AGCACTCTCC TGGATACGCT GCATCGCCTC GGCATCCTCT CCAGCTGCCA GGACGAGCGC
 10 ATCATCGATG TAATCACACA GATCGCCTCC TTCATGGCCT ACAGCAACAG CTGCCTCAAC CCACTGGTGT
 ACGTGATCGT GGGCAAGCGC TTCCGAAAGA AGTCTTGGGA GGTGTACCAG GGAGTGTGCC AGAAAGGGGG
 CTGCAGGTCA GAACCCATTG AGATGGAGAA CTCCATGGGC AACTGCGGA CCTCCATCTC CGTGGAAACGC
 CAGATTCACA AACTGCAGGA CTGGGCAGGG AGCAGACAGT GAGCAAAACGC CAGCAGGGCT GCTGTGAATT
 TGTGTAAGGA TTGAGGGACA GTTGCTTTTC AGCATGGGCC CAGGAATGCC AAGGAGACAT CTATGCACGA
 15 CCTTGGGAAA TGACTTGATG TCTCCGGTAA AACACCGGAG ACTAATTCCT GNCCTGCCCA ATTTTGCAGG
 GAGCATGGCT GTGAGGATGG GGTGAACTCA CGCACAGCCA AGGACTCCAA AATCACAACA GCATTACTGT
 TCTTATTTGC TGCCACACCT GAGCCAGCCT GCTCCTTCCC AGGAGTGGAG GAGGCCTGGG GGCAGGGAGA
 GGAGTGACTG AGCTTCCCTC CCGTGTGTTT TCCGTCCCTG CCCCAGCAAG ACAACTTAGA TCTCCAGGAG
 AACTGCCATC CAGCTTTGGT GCAATGGCTG AGTGCACAAG TGAGTTGTTG CCCTGGGTTT CTTTAATCTA
 20 TTCAGCTAGA ACTTGAAGG ACAATTTCTT GCATTAATAA AGGTAAAGCC CTGAGGGGTC CCTGATAACA
 ACCTGGAGAC CAGCAATTTA TGGCTCCCCT CACTGATGGA CAAGGGAGGT CTGTGCCAAA GAAGAATCCA
 ATAAGCACAT ATTGAGCACT TGCTGTATAT GCAGTATTGA GCACTGTAGG CAAGAGGGAA GAAAGAGAAG
 GAGCCATCTC CATCTTGAAG GAACTCAAAG ACTCAAGTGG GAACGACTGG CACTGCCACC ACCAGAAAGC
 TGTTTCGACGA GACGGTCGAG CAGGGTGCTG TGGTGATAT GGACAGCAGA AGGGGGAGAC CAAGGTTCCA
 25 GCTCAACCAA TAAC TATTGC ACAACCCT GTCCCTGCCT CAGTTCCCTC TTCTGTAACA TGAAGTCGTT
 GTGAGGGTTA AAGC CAGTAA CAGGTATAAA GTACTTAGAA AAGCAAAGGG TGCTACGTAC ATGTGAGGCA
 TCATTACGCA GACCTAACTG GGATATGTTT ACTATAAGGA AAAGACACTG AGGTCTAGA TGATCTATC
 ACAACCTGAG AGTAGTTTTT ACTCCATTTA CAGGTGAGGT CATTGTGGTT CAAGGACGTT AAGTAAC TTC
 30 CCCAGCTCAC ACGGCTTATA AGTAAGGCAG CCAGGATGTG AACCCAGTAG GACTATCTGG CTGCAAAGTC
 CCCACCCTCC CTCGCCATCT GTATCCTCCA ATCATCTTCA GTGCTTTGCT GATAGAAGGT ACGGAAATAC
 GATGCCACAG ACTGTCCAGG AAGACAGAAA CTAGGCAGAT GGGCTGGCCA TGGTCTCCAA GCCAGACTGG
 AATCTCCAGG TCTGGAATGA TATCATTTTT CTCTTTTAAT AAATTAATC ACCCACCACA CGGCTTTGAG
 AGGCTCAAAG GTGACCAACT CCCTTGGGAG GGCCCCGGTT GATAAGGAAG GAATGTGAAT CCTCCCATCA
 CGGAAGCTTC AAGC AGGTCA AGGGTCCAAC ACTTGAGATT GTTAGTGCTG TTGGTGATA CTGCAGAATA
 35 TCCAGTGGAG CCTCAGATGA AGAACATGAG GCCCCGTTTA GATCCAAGGA TCAGAGGGGG CTCTGTAAGA
 CCCAGGGGAG TCAGTGCAC TGGAGCGCGG GCTGCAGAAA ACAGCTGAG CTCCACCTCG GCTTCTCCTT
 GCCCTGGCTG GTTC TCCTTA ACCCTGTCT CCTTCTGGAC CAGTTTTTGT CCTTCCCTTG TGACCTGAGG
 GGTAACAGCC TCTTTCCAC TTTCTTTTCA CGCCGACATG CTCAATGTCA CCTTGCAAGG GCCACTCTT
 AACGGGACCT TTGCCAGAG CAAATGCCCC CAAGTGGAGT GGCTGGGCTG GCTCAACACC ATCCAGCCCC
 40 CCTTCTCTG GGTGCTGTTC GTGCTGGCCA CCCTAGAGAA CATCTTTGTC CTCAGCGTCT TCTGCCTGCA
 CAAGAGCAGC TGCA CGGTGG CAGAGATCTA CCTGGGGAAC CTGGCCGAG CAGACCTGAT CCTGGCCTGC
 GGGCTGCCCT TCTGGGCCAT CACCATCTCC AACAACTTCG ACTGGCTCTT TGGGGAGACG CTCTGCCGCG
 TGGTGAATGC CATATCTCC ATGAACCTGT ACAGCAGCAT CTGTTTCCTG ATGCTGGTGA GCATCGACCG
 CTACCTGGCC CTGGTGAAAA CCATGTCCAT GGGCCGGATG CGCGGCGTGC GCTGGGCCAA GCTCTACAGC
 45 TTGGTGATCT GGGGGTGTAC GCTGCTCCTG AGCTACCCA TGCTGGTGTT CCGGACCATG AAGGAGTACA
 GCGATGAGGG CCACAACGTC ACCGCTTG TG TCATCAGCTA CCCATCCCTC ATCTGGGAAG TGTTCACCAA
 CATGCTCCTG AATGTCGTGG GCTTCCTGCT GCCCTGAGT GTCATCACCT TCTGCACGAT GCAGATCATG
 CAGGTGCTGC GGAACAACGA GATGCAGAAG TTCAAGGAGA TCCAGACGGA GAGGAGGGCC ACGGTGCTAG
 TCCTGGTTGT GCTGCTGCTA TTCATCATCT GCTGGCTGCC CTTCCAGATC AGCACCTTCC TGGATACGCT
 50 GCATCGCCTC GGCATCCTCT CCAGTGCCA GGACGAGCGC ATCATCGATG TAATCACACA GATCGCCTCC
 TTCATGGCCT ACAGCAACAG CTGCCTCAAC CCACTGGTGT ACGTGATCGT GGGCAAGCGC TTCCGAAAGA
 AGTCTTGGGA GGTGTACCAG GGAGTGTGCC AGAAAGGGGG CTGCAGGTCA GAACCCATTG AGATGGAGAA

004040" 634E4560

CTCCATGGGC ACACTGCGGA CCTCCATCTC CGTGGAACGC CAGATTCACA AACTGCAGGA CTGGGCAGGG
 AGCAGACAGT GAGCAAAACGC CAGCAGGGCT GCTGTGAATT TGTGTAAGGA TTGAGGGACA GTTGCTTTTC
 AGCATGGGCC CAGCAATGCC AAGGAGACAT CTATGCACGA CCTTGGGAAA TGAGTGTGA TGTCTCCGGT
 AAAACACCGG AGACTAATTC CTGCCCTGCC CAATTTTCGA GGGAGCATGG CTGTGAGGAT GGGGTGAAC
 5 CACGCACAGC CAAGGACTCC AAAATCACAA CAGCATTACT GTTCTTATT GCTGCCACAC CTGAGCCAGC
 CTGCTCCTTC CCAGGAGTGG AGGAGGCCTG GGGGAGGGAG AGGAGTGACT GAGCTTCCCT CCCGTGTGTT
 CTCCGTCCCT GCCCAGCAA GACAACTTAG ATCTCCAGGA GAACTGCCAT CCACGTTTGG TGCAATGGCT
 GAGTGACAA GTGAGTTGTT GCCCTGGGTT TCTTTAATCT ATCAGCTAGA ACTTTGAAGG ACAATTTCTT
 GCATTAATAA AGGTAAAGCC CTGAGGGGTC CCTTGATAAC AACCTGGAGA CCAGGATTTT ATGGCTCCCC
 10 TCACTGATGG ACAAGGAGGT CTGTGCCAAA GAAGAATCAA TAAGCACATA TGAGCACTTC TGTATATCAG
 TATTGAGCAC TGTAGGCA ATGTTCTCTC CCTGGAAGAT ATCAATGTTT CTGTCTGTTT GTGAGGACTC
 CGTGCCACAC ACGCCTCTT TCAGCGCCGA CATGCTCAAT GTCACCTTGC AAGGGCCCAC TCTTAACGGG
 ACCTTTGCCC AGAGCAAATG CCCCCAAGTG GAGTGGCTGG GCTGGCTCAA CACCATCCAG CCCCCCTTCC
 TCTGGGTGCT GTTCGTGCTG GCCACCCTAG AGAACATCTT TGTCTCAGC GTCTTCTGCC TGCACAAGAG
 15 CAGCTGCACG GTGCAGAGA TCTACCTGGG GAACCTGGCC GCAGCAGACC TGATCCTGGC CTGCGGGCTG
 CCCTTCTGGG CCATCACCAT CTCCAACAAC TTCGACTGGC TCTTTGGGGA GACGCTCTGC CGCGTGGTGA
 ATGCCATTAT CTCCATGAAC CTGTACAGCA GCATCTGTTT CCTGATGCTG GTGAGCATCG ACCGCTACCT
 GGCCCTGGTG AAAACCATGT CCATGGGCCG GATGCGCGGC GTGCGCTGGG CCAAGCTCTA CAGCTTGGTG
 ATCTGGGGGT GTACGCTGCT CCTGAGCTCA CCCATGCTGG TGTCCGGAC CATGAAGGAG TACAGCGATG
 20 AGGGCCACAA CGTACCGCT TGTGTCATCA GCTACCATC CCTCATCTGG GAAAGTTTCA CCAACATGCT
 CCTGAATGTC GTGGGCTTCC TGCTGCCCCT GAGTGTGATC ACCTTCTGCA CGATGCAGAT CATGCAGGTG
 CTGCGGAACA ACGAGATGCA GAAGTTCAAG GAGATCCAGA CGGAGAGGAG GGCCACGGTG CTAGTCCTGG
 TTGTGCTGCT GCTATTATC ATCTGCTGGC TGCCCTTCCA GATCAGCACC TTCCTGGATA CGCTGCATCG
 CCTCGGCATC CTCTCAGCT GCCAGGACGA GCGCATCATC GATGTAATCA CACAGATCGC CTCCTTCATG
 25 GCCTACAGCA ACACCTGCCT CAACCCACTG GTGTACGTGA TCGTGGGCAA GCGCTTCCGA AAGAAGCTT
 GGGAGGTGTA CCACGGAGTG TGCCAGAAAG GGGGCTGCAG GTCAGAACCC ATTCAGATGG AGAAGTCCAT
 GGGCACACTG CGGACCTCCA TCTCCGTGGA ACGCCAGATT CACAACTGC AGGACTGGGC AGGGAGCAGA
 CAGTGAGCAA ACGCCAGCAG GGCTGCTGTG AATTTGTGTA AGGATTGAGG GACAGTTGCT TATGTTCTCTC
 CCTGGAAGAT ATCAATGTTT CTGTCTGTTT GTGAGGACTC CGTGCCACC ACGGCCTCTT TCAGCGCCGA
 30 CATGCTCAAT GTCACCTTGC AAGGGCCAC TCTTAACGGG ACCTTTGCC AGAGCAAATG CCCCCAAGTG
 GAGTGGCTGG GCTGCTCAA CACCATCCAG CCCCCCTTCC TCTGGGTGCT GTTCGTGCTG GCCACCCTAG
 AGAACATCTT TGTCCTCAGC GTCTTCTGCC TGCACAAGAG CAGCTGCACG GTGGCAGAGA TCTACCTGGG
 GAACCTGGCC GCACAGACC TGATCCTGGC CTGCGGGCTG CCTTCTGGG CCATCACCAT CTCCAACAAC
 TTCGACTGGC TCTTTGGGGA GACGCTCTGC CGCGTGGTGA ATGCCATTAT CTCCATGAAC CTGTACAGCA
 35 GCATCTGTTT CTGTATGCTG GTGAGCATCG ACCGCTACCT GGCCCTGGTG AAAACCATGT CCATGGGCCG
 GATGCGCGGC GTGCCTGGG CCAAGCTCTA CAGCTTGGTG ATCTGGGGGT GTACGCTGCT CCTGAGCTCA
 CCCATGCTGG TGTTCGGAC CATGAAGGAG TACAGCGATG AGGGCCACAA CGTCACCGCT TGTGTCATCA
 GCTACCATC CCTCATCTGG GAAGTGTTC CCAACATGCT CCTGAATGTC GTGGGCTTCC TGCTGCCCCT
 GAGTGTGATC ACCTTCTGCA CGATGCAGAT CATGCAGGTG CTGCGGAACA ACGAGATGCA GAAGTTCAAG
 40 GAGATCCAGA CGGAGAGGAG GGCCACGGTG CTAGTCCTGG TTGTGCTGCT GCTATTATC ATCTGCTGGC
 TGCCCTTCCA GATCAGCACC TTCCTGGATA CGCTGCATCG CCTCGGCATC CTCTCCAGCT GCCAGGACGA
 GCGCATCATC GATGTAATCA CACAGATCGC CTCCTTCATG GCCTACAGCA ACAGCTGCCT CAACCCACTG
 GTGTACGTGA TCGTGGGCAA GCGCTTCCGA AAGAAGTCTT GGGAGGTGTA CCAGGGAGTG TGCCAGAAAG
 GGGGCTGCAG GTCAGAACCC ATTCAGATGG AGAAGTCCAT GGGCACACTG CGGACCTCCA TCTCCGTGGA
 45 ACGCCAGATT CACAACTGC AGGACTGGGC AGGGAGCAGA CAGTGAGCAA ACGCCAGCAG GGCTGCTGTG
 AATTTGTGTA AGGATTGAGG GACAGTTGCT T GCTTCAAAA GATGAGCTGT TCCCGCCGCC ACTCCAGCTC
 TGGCTTCTGG GCTCAGAGGA GGGGTGGGGA CGGTGGGGAC ATCAGGCTGC CCCGAGTAC CAGGGAGCGA
 CTGAAGTGCC CATGCCGCTT GCTCCGAGGA AGGTGGGTGC CGGGCAGGGG CTGCTCCAGC CGCCTCACCT
 CTGCTGGGAG GACAACTGT CCCAGCACAG AGGGAGGGAG GGAGGGCAGG CAGCGGGAG AAGTTTCCCT
 50 GTGGTCTGGG GGAGTT GCCCTTCAAA GATGAGCTGT TCCCGCCGCC ACTCCAGCTC TGGCTTCTGG
 GCTCCGAGGA GGGCTGGGGA CGGTGGTGAC GGTGGGGACA TCAGGCTGCC CCGCAGTACC AGGGAGCGAC
 TGAAGTGCCC ATGCCGCTT CTCCGAGAA GGTGGGTGCC GGGCAGGGG TGCTCCAGCC GCCTCACCTC

004040 " 62943660

TGCTGGGAGG ACA^ACTGTC CCAGCACAGA GGGAGGGAGG GAGGGCAGGC AGCGGGGAGA AGTTTCCCTG
 TGGTCGTGGG GAGT^ GAGCTCTTCA ATATTTTAGT GAAAGCTATA GATGAGGCTC CATAGGGGAT AAAGCACAGA
 CACACCTTTT CAGAGGGCTT GTGGACTCTG GGCAGCCTGT CCATAGACCT CTGTCCCCAA CTGGCAAGTC
 AGGAAACTCC AGA^TAAGGA GCCCAATGT GGTGAACAG CCAGGTGCAC AGATGAGTCA ACCACACAGC
 5 CAGGCCAGGG AGGGCCTTCA CTCAAGAGCC TACAGCCAGT TCACAGCCAA GCCAGGGCTA GCGCCAGGCC
 ACCCATAAAC TGA^CTGAGA CTCTGTTTCC CTGTCTCCAT GATGATGGGA TCAGGCTTGA TTGCTGGTTT
 GTAGGCTTGT TATGAATCAA GTCACAGGGA AGAGGAGCTG ATGGGCTGGG GGGACGTCCT CTGGCCCTCC
 TGTCTCTTCC CCAGATCCAC TGGGCCCACT CTTATCTGTT CTCTTCTGAA GGAAGGGTTT TAAGGCTTCA
 AAAAAAATG TTT^GAAAGT CCCTGCCCTT TCCAGCTCCT ACCGTCTCAG CCCTGGGAGT GTAAAGTGCT
 10 GCAGATAGTT AGT^AGTCTT TGAGCAAAAC TGAGAAAGCC AGCCTGAGCC TTGACATGGG AGAAACCTCC
 GCCATACATC TCCGAAGAAA CGGCCGCGTG TCTCAGGGGA GCGCAAACAC CCGTACCCAG GAAACAGGAC
 AGCTTCTGCC ACTGTCGCCC TTGGGAGCCG TACGTGGCAT GACAAAGAAA TCCCAGGACT CCGCCTGCCC
 ACCTGGCCAC CCTCTGTTTA CACCTTCCGC GTAAACGCC ACTGTTTACA TCCAAAACCTC AGACACAAAA
 TAACCACCTC AAG^AGATAA ATAATGATAA GAAATAAATG TTACGCGAGG CAAATTTATT CACATGGGGC
 15 TTCCCAGGCC ACTTGTGGT CAGCCGGGAG GGACGTTTTT GCCGTCCCAC GACTCCAACG GGCAGCCGGG
 CCTACGCAAA CATCGAAATC TTCCAAGAGC CTCCTGGCC CCCAGGGCTC AGAGGGTGGC AGAGCGGAGA
 GCGAAGGTGG CCG^AGCCTT CCCGCCCCA CAGCCAGCCT GGCTCCAGCT GGCAGGAGT GCAGAGCTCA
 GCTGGAGGCG AGGGGGAAGT GCCCAGGAGG CTGATGACAT CACTACCCAG CCCTTCAAAG ATGAGCTGTT
 CCCGCCGCCA CTCCAGCTCT GGCTTCTGGG CTCCGAGGAG GGGTGGGGAC GGTGGTGACG GTGGGGACAT
 20 CAGGCTGCCC CGC^GTACCA GGGAGCGACT GAAGTGCCCA TGCCGCTTGC TCCGGAGAAG GTGGGTGCCG
 GGCAGGGGCT GCTCAGCCG CCTCACCTCT GCTGGGAGGA CAAACTGTCC CAGCACAGAG GGAGGGAGGG
 AGGGCAGGCA GCGG^GAGAA GTTCCCTGT GGTCTGGGG AGTTGGGAAA AGTTCCCTC CTTCGGAGG GAGG
 GAATTCGGGA AAA^GTGAAG GTGTAAAAGC AGCACAAGTG CAATAAGAGA TATTTCTCA AATTGCTC
 AAGATGGAAG CCC^TTGCCT CAGGGCATCC TTTTGGCTGG CACTGGTTGG ATGTGTAATC AGTGATAATC
 25 CTGAGAGATA CAG^ACAAAT CTAAGCAATC ATGTGGATGA TTTCACCACT TTTCGTGGCA CAGAGCTCAG
 CTTCTGGTT ACCACTCATC AACCCACTAA TTTGGTCCTA CCCAGCAATG GCTCAATGCA CAACTATTGC
 CCACAGCAGA CTA^AATTAC TTCAGCTTTC AAATACATTA AACTGTGAT ATCTTGTAATC ATTTTCATCG
 TGGGAATGGT GGG^AATGCA ACTCTGCTCA GGATCATTTA CCAGAACAAA TGTATGAGGA ATGGCCCCAA
 CGCGCTGATA GCC^GTCTTG CCCTTGAGGA CCTTATCTAT GTGGTCATTG ATCTCCCTAT CAATGTATTT
 30 AAGCTGCTGG CTGGGCGCTG GCCTTTTGAT CACAATGACT TTGGCGTATT TCTTTGCAAG CTGTTCCCTC
 TTTTGAGAA GTCC^CGGTG GGGATCACCG TCCTCAACCT CTGCGCTCTT AGTGTGACA GGTACAGAGC
 AGTTGCCCTC TGG^GTCGTG TTCAGGGAAT TGGGATTCCT TTGGTAACTG CCATTGAAAT TGTCTCCATC
 TGGATCCTGT CCTTATCCTT GGCCATTCTT GAAGCGATTG GCTTCGTCAT GGTACCCCTT GAATATAGGG
 GTGAACAGCA TAA^ACCTGT ATGCTCAATG CCACATCAA ATTCAATGAG TTCTACCAAG ATGTAAAGGA
 35 CTGGTGGCTC TTCCGGTTCT ATTTCTGTAT GCCCTTGGTG TGCACTGCGA TCTTCTACAC CCTCATGACT
 TGTGAGATGT TGAA^CAGAAG GAATGGCAGC TTGAGAATTG CCCTCAGTGA ACATCTTAAG CAGCGTCGAG
 AAGTGGCAAA AAC^GTTTTC TGCTTGGTTG TAATTTTTCG TCTTTGCTGG TTCCCTCTTC ATTTAAGCCG
 TATATTGAAG AAA^CTGTGT ATAACGAGAT GGACAAGAAC CGATGTGAAT TACTTAGTTT CTTACTGCTC
 ATGGATTACA TCG^TATTAA CTTGGCAACC ATGAATTCAT GTATAAACCC CATAGCTCTG TATTTTGTGA
 40 GCAAGAAATT TAA^AATTGT TTCCAGTCAT GCCTCTGCTG CTGCTGTTAC CAGTCCAAAA GTCTGATGAC
 CTCGGTCCCC ATGAACGGAA CAAGCATCCA GTGGAAGAAC CACGATCAAA ACAACCACAA CACAGACCGG
 AGCAGCCATA AGG^CAGCAT GAACTGACCA CCCTTAGAAG CACTCCTCGG TACTCCCATC ATCCTCTCGG
 AGAAAAAAT CAC^AGGCAA CTGTGAGTCC GGGAATCTCT TCTCTGATCC TTCTTCTTCA ATTCACTCCC
 ACACCAAGA AGA^ATGCTT TCCAAAACCG CAAGGGTAGA CTGGTTTATC CACCCACAAC ATCTACGAAT
 45 CGTACTTCTT TAATGATCT AATTTACATA TTCTGCGTGT TGTATTGAGC ACTAAAAAAT GGTGGGAGCT
 GGGGGAGAAT GAA^GACTGTT AAATGAAACC AGAAGGATAT TTAATCTTTT TGCAATGAAAA TAGAGCTTTC
 AAGTACATGG CTAG^CTTTTA TGGCAGTTCT GGTGAATGTT CAATGGGAAC TGGTCACCAT GAAACTTTAG
 AGATTAACGA CAAG^ATTTTC TACTTTTTTT AAGTGATTTT TTTGTCCTTC AGCCAAACAC AATATGGGCT
 CAAGTCACTT TTA^TTGAAA TGTCAATTGG TGCCAGTATC CCGAATTC GCCACCATGG AAACCCCTTG
 50 CCTCAGGGCA TCC^TTTTGGC TGGCACTGGT TGGATGTGTA ATCAGTGATA ATCCTGAGAG ATACAGCACA
 AATCTAAGCA ATCA^TGTGGA TGATTTCAAC ACTTTTCGTG GCACAGAGCT CAGCTTCTCG GTTACCACTC
 ATCAACCCAC TAA^TTGGTC CTACCCAGCA ATGGCTCAAT GCACAACATAT TGCCACAGC AGACTAAAAAT

004040 " 6494560



5	TACTTCAGCT	TTCAAATACA	TTAAACACTGT	GATATCTTGT	ACTATTTTCA	TCGTGGGAAT	GGTGGGGAAT
	GCAACTCTGC	TCAGGATCAT	TTACCAGAAC	AAATGTATGA	GGAATGGCCC	CAACGCGCTG	ATAGCCAGTC
	TTGCCCTTGG	AGACCTTATC	TATGTGGTCA	TTGATCTCCC	TATCAATGTA	TTTAAGCTGC	TGGCTGGGCG
	CTGGCCTTTT	GATCACAAATG	ACTTTGGCGT	ATTCTTTTGC	AAGCTGTTCC	CCTTTTTGCA	GAAGTCCTCG
	GTGGGGATCA	CCGTCCTCAA	CCTCTGCGCT	CTTAGTGTTG	ACAGGTACAG	AGCAGTTGCC	TCCTGGAGTC
10	GTGTTCAGGG	AATTTGGGATT	CCTTTGGTAA	CTGCCATTGA	AATTGCCTCC	ATCTGGATCC	TGTCCTTTAT
	CCTGGCCATT	CCTGAAGCGA	TTGGCTTCGT	CATGGTACCC	TTTGAATATA	GGGGTGGACA	GCATAAAACC
	TGTATGCTCA	ATGCCACATC	AAAATTCATG	GAGTTCCTACC	AAGATGTAAA	GGACTGGTGG	CTCTTCGGGT
	TCTATTTCTG	TATGCCCTTG	GTGTGCACTG	CGATCTTCTA	CACCCTCATG	ACTGGTGAGA	TGTTGAACAA
	AAGGAATGGC	AGCTTGAGAA	TTGCCCTCAG	TGAACATCTT	AAGCAGCGTC	GAGAAGTGGC	AAAAACAGTT
15	TTCTGCTTGG	TTGTAATTTT	TGCTCTTTGC	TGGTTCCTCT	TTCATTTAAG	CCGTATATTG	AAGAAAACTG
	TGTATAACGA	GATGACAAG	AACCGATGTG	AATTACTTAG	TTTCTTACTG	CTCATGGATT	ACATCGGTAT
	TAAC TTGGCA	ACCA TGAATT	CATGTATAAA	CCCCATAGCT	CTGTATTTTG	TGAGCAAGAA	ATTTAAAAAT
	TGTTTCCAGT	CATGCCTCTG	CTGCTGCTGT	TACCAGTCCA	AAAGTCTGAT	GACCTCGGTC	CCCATGAACG
	GAACAAGCAT	CCAGTGGAAG	AACCACGATC	AAAACAACCA	CAACACAGAC	CGGAGCAGCC	ATAAGGACAG
20	CATGAACTGA	CCACCTTAG	AAGCACTCCT	GAATTCGGGA	AAAAGTGAAG	GTGTAAAAAGC	AGCACAAGTG
	CAATAAGAGA	TATTTCTCTA	AATTTGCCTC	AAGATGGAAA	CCCTTTGCCT	CAGGGCATCC	TTTTGGCTGG
	CACTGGTTGG	ATGTGTAATC	AGTGATAATC	CTGAGAGATA	CAGCACAAAT	CTAAGCAATC	ATGTGGATGA
	TTTCAACCACT	TTTCTGGGCA	CAGAGCTCAG	CTTCTGGTT	ACCACTCATC	AACCCACTAA	TTTGGTCTTA
	CCCAGCAATG	GCTCAATGCA	CAACTATTGC	CCACAGCAGA	CTAAAATTAC	TTCAGCTTTC	AAATACATTA
25	ACACTGTGAT	ATCTTGTAAT	ATTTTCATCG	TGGGAATGGT	GGGGAATGCA	ACTCTGCTCA	GGATCATTTA
	CCAGAACAAA	TGTATGAGGA	ATGGCCCCAA	CGCGCTGATA	GCCAGTCTTG	CCCTTGAGAA	CCTTATCTAT
	GTGGTCATTG	ATCTCCCTAT	CAATGTATTT	AAGCTGCTGG	CTGGGCGCTG	GCCTTTTGAT	CACAATGACT
	TTGGCGTATT	TCTTTGCAAG	CTGTTCCCTT	TTTTGCAGAA	GTCCTCGGTG	GGGATCACCG	TCCTCAACCT
	CTGCGCTCTT	AGTGTGACAA	GGTACAGAGC	AGTTGCCTCC	TGGAGTCGTG	TTCAGGGAAT	TGGGATTCTT
30	TTGGTAACTG	CCATTGAAAT	TGTCTCCATC	TGGATCCTGT	CCTTTATCCT	GGCCATTCTT	GAAGCGATTG
	GCTTCGTCAT	GGTATCCCTT	GAATATAGGG	GTGAACAGCA	TAAAACCTGT	ATGCTCAATG	CCACATCAAA
	ATTCAATGGAG	TTCTACCAAG	ATGTAAAGGA	CTGGTGGCTC	TTCGGGTTCT	ATTTCTGTAT	GCCCTTGGTG
	TGCACTGCGA	TCTTCTACAC	CCTCATGACT	TGTGAGATGT	TGAACAGAAG	GAATGGCAGC	TTGAGAATTG
	CCCTCAGTGA	ACATCTTAAG	CAGCGTCGAG	AAGTGGCAAA	AACAGTTTTT	TGCTTGGTTG	TAATTTTTTG
35	TCTTTGCTGG	TTCCCTCTTC	ATTTAAGCCG	TATATTGAAG	AAAAGTGTGT	ATAACGAGAT	GGACAAGAAG
	CGATGTGAAT	TACTTAGTTT	CTTACTGCTC	ATGGATTACA	TCGGTATTAA	CTTGGCAACC	ATGAATTCAT
	GTATAAACCC	CATAGCTCTG	TATTTTGTGA	GCAAGAAATT	TAAAAATTGT	TTCCAGTCAT	GCCTCTGCTG
	CTGCTGTTAC	CAGTCTCAAAA	GTCTGATGAC	CTCGGTCCCC	ATGAACGGAA	CAAGCATCCA	GTGGAAGAAG
	CACGATCAAA	ACAACCACAA	CACAGACCGG	AGCAGCCATA	AGGACAGCAT	GAAGTACCA	CCCTTAGAAG
40	CACCTCTCGG	TACTCTCCATA	ATCCTCTCGG	AGAAAAAAAT	CACAAGGCAA	CTGTGAGTCC	GGGAATCTCT
	TCTCTGATCC	TTCTCTCTTA	ATTCACTCCC	ACACCCAAGA	AGAAATGCTT	TCCAAAACCG	CAAGGGTAGA
	CTGGTTTATC	CACCTACAAC	ATCTACGAAT	CGTACTTCTT	TAATTGATCT	AATTTACATA	TTCTGCGTGT
	TGTATTCAGC	ACTAAAAAAT	GGTGGGAGCT	GGGGGAGAAT	GAAGACTGTT	AAATGAAACC	AGAAGGATAT
	TTACTACTTT	TGCAATGAAAA	TAGAGCTTTC	AAGTACATGG	CTAGCTTTTA	TGGCAGTTCT	GGTGAATGTT
45	CAATGGGAAC	TGGTCACCAT	GAAACTTTAG	AGATTAAACGA	CAAGATTTTC	TACTTTTTTT	AAGTGATTTT
	TTTGTCTCTC	AGCCAAACAC	AATATGGGCT	CAAGTCACTT	TTATTTGAAA	TGTCATTTGG	TGCCAGTATC
	CCGAATTC	AACAGAGAAA	GCGTTGGTAG	CTCTGGTGAA	TCCAAAAAGA	ATGTGGCAGT	TGCTAGCCAT
	GCTCCTGAAT	ATGTATAAAC	AGTACATCAT	ATGACTAAGA	GTTTGACTTA	GGGGTTAGAT	TTTATGTGTT
	TGAACCCCAA	ATTAGTTATT	TAATAGTTGG	CACCCCAAAA	CAAGTTACTT	AACCTCACTA	AGGTTTCAGTT
50	TTCTGTTTTA	TAAAAATGTAG	ATAGTGATAG	TATGTACTTT	ATAGGATTAT	TGTGAAAAAT	AAATGAAATA
	TCAGATTTAT	TTAGATATAAC	ACCTGGCATA	TGTTTGGTAT	TCAGAATTAG	TTGCTGCTGT	TTTATTCTGC
	TCTCCCTTGC	ATCCCACTTT	TCTAAGTTGT	AAACTAAATA	GTTGTACACA	GATTGACAGA	TTAAGAAAGG
	CTTGTGATTG	TGCTAGACCT	ATGCCTATGC	CTCTGTCTCA	CCAGATTCCA	GGTGTATATG	TGGAGGTGGG
	ATAGGGAGTG	GAGTAAAGTGG	GTAAATATTA	AATTGCCCAG	TTGGGCACCA	TCCTGAATAT	TATCTCTAAA
	GAAAGAAGCA	AAACCAGGCA	CAGCTGATGG	GTAAACCAGA	TATGATACAG	AAAACATTTT	CTTCTGCTTT
	TTGGTTTTAA	GCCTATATTT	GAAGCCTTAG	ATCTCTCCAG	CACAGTAAGC	ACCAGGAGTC	CATGAAGAAAG
	ATG						



5	GATCTTCATG	TGGAATGACT	GGTTTCATTC	AATAGACTTA	ATTCAGCAGT	CTGTGGGGAA	GAGCAAGGTA
	TGATAGAATG	GTTCTCAAG	TGCTTCAGAT	GTGAAGTGGG	TTTAAATATA	CTGTCCCTGT	CTTCTTCAGA
	GTTTTGGTAA	AGATAAAATA	GGACACTCAT	TAAAAAGCAA	TCTTTGCAAA	TGACAAGCCA	CTATAGACAT
	TAATAGAGTT	TTCAATTTCCA	GTATTATCAT	TAATATCAGA	TCCTGGAAGA	AGGTTGAGCC	TTGACCTAGA
	GCAAAAAAAC	AGAAAGAATTA	GTAAGGAAT	CCTGGAGAAA	GCCCCTGCTG	TGTATTTAAA	GGAGAAAGGG
10	AGATCATGTT	GGGAATTAT	AATATTAAAA	GTAACA AAAA	GCTAGGAA GT	AAAAATAAAT	AAATTATATG
	GCCTAGATCC	CCATAAGTAA	TGGTTTAACT	TCTGCCTTCC	TGTGTTCTGA	GCCAGATTAG	GGCACAGTAG
	AGAAAGAGGA	GTCCTGAAA	ATGTTTCCAA	TTTCGCTGGT	CAGACAGCGG	ATCATCAGTG	AATCAGATGA
	AAATTTGTGG	ATTTATGCAC	TAAC TGATCA	GCAGGAAATT	AAACAAGAAA	AGCGTTGGTA	GCTCTGGTG
	ATCCCAAAAG	AATTTGGCAG	TTGCTAGCCA	TGCTCCTGAA	TATGTATAAA	CAGTACATCA	TATGACTAAG
15	AGTTTGACTT	AGGCGTTAGA	TTTTATGTGT	TTGAACCCCA	AATTAGTTAT	TTAATAGTTG	GCACCCCAAA
	ACAAGTTACT	TAACTCACT	AAGATT CAGT	TTTCCTGTTT	ATAAAATGTA	GATAGTGATA	GTATGTACTT
	TATAGGATTA	TTGIGAAAAA	TAAATGAAAT	ATCAGATTTA	TTTAGGATAA	CACCTGGCAT	ATGTTTGGTA
	TTCAGTAATT	AGTIGCTGCT	GTTTTATTCT	GCTCTCCCTT	GCATCCCACT	TTTCTAAGTT	GTAAACTAAA
	TAGTTGTACA	CAGATTGACA	GATTAAGAAA	GGCTTGTGAT	TGTGCTAGAC	CTATGCCTCT	CTCTCACCAG
20	ATTCCAGGTG	TATATGTGGA	GGTGGGATAG	GGAGTGAGT	AAGTGGGTAA	ATATTAAATT	GCCCAGTTGG
	GCACCATCCT	GAATATTATC	TCTAAAAGAAA	GAAGCAAAAC	CAGGCACAGC	TGATGGGTTA	ACCAGATATG
	ATACAGAAAA	CATCTCCTTC	TGCTTTTTGG	TTTTAAGCCT	ATATTTGAAG	CCTTAGATCT	CTCCAGCACA
	GTAAGCACCA	GGAGTCCATG	AAGAAGATGG	CTCCTGCCAT	GGAATCCCCT	ACTCTACTGT	GTGTAGCCTT
	ACTGTTCTTC	GGTAAGTAGA	GATTCAATTA	CCCCTCCCAG	GGAGGCCCAA	ATGAATTTGG	GGAGCAGCTG
25	GGGTAGGAAC	CTTACTGTG	GGTGGTGACT	TTTTCTAGGA	CATGTGCAAA	CTATTGGGCA	TTTCCCAGGG
	ACTCTGTAGT	GGAGCCAAGC	TAGAAAGCAG	AGGCAAGTGG	GCTGAGCAAC	ACCTAAGGAG	GAAGCCAGAC
	TGAAAGCTTG	GTTCCTTGCA	TTTGCTCTGG	CATCTTCCAG	AGTGCAAAAT	TCCTACCAAG	GTAA TGAGGG
	TAGAGGAGAG	AAAAGAGCTC	TTTCTTCCCC	TGATTCTCAT	TCCTGAAAAG	ACGGTTGGTC	CTTAAAATTC
	CATGGATGTA	GATCTTATCC	CCACACCCAG	ATTCTAGTCC	TCTGGAGATA	AAGAAGACTG	CTGGACACTA
30	ATGTATCCTC	TCTGGACTTT	TGCAGCTCCA	GATGGCGTGT	TAGCAGGTGA	GTCCTCTGTT	CTTGTTCCCT
	TGGTGTATCA	ACA GTCTGG	GCATTGCTTT	CCTCTCACTA	TTTTCTTCGT	CCATCACTT	CTGCTTCTA
	ATGAGCATGA	ATCTGTTCCT	TGGCCAGACT	ACTTTCCTC	TCCACCTTGC	CTTGTCTTTC	TTTTTTTCCC
	TGATTCAATTG	CATCTCTCA	AGTCATTCTC	TCCTCTGTTT	TAGTCAATAA	CCATGTCTGT	TGCACATATA
	CATGTCTCAT	TCTCTCTCCT	AGACACTTTG	GCATGATCTC	GCTCAATAAT	TACATTATTA	TTATTATTGC
35	CATTTTATAA	TTGAGGATGC	TGAAACTCAG	TGATTTTCTG	GTGGTTACAT	GGCTAAGGAA	CTGGATTTC A
	ACGTAAGTTC	CTTGATCTA	AGTCCAGTTC	TCTCTGACT	ATATCACCTT	TTTGTTATCA	CCATGTATCT
	ACTTCTTTGG	TCTCTGTTCA	AATTTGCACT	ACATCCCCTT	GTTCCAGGAA	GCCATTCAAG	ACTGACTTTC
	TTAGTGCCCTC	TCACTACTTT	CTGGA ACTGA	CATATGTTTT	TCACTCTGTA	TATACTTACA	ATTAAAATAGT
	CATAAATATT	CAGAGCTTGG	AGAAACCTTA	TATTT CATCC	AGTCCAGTAA	ATTTATCCAT	CCATAATTCA
40	CTCATTCAAT	CACATAATAA	ATATTTAATG	TAACAATGGT	TGAACATGGC	AGACAGTGTT	TCTACCTCAA
	AAGAGATTGC	AGTCTCATT	TACAGATACT	GAATTGAAAT	TAACAGAAGT	AGAGTGAGTC	AGCTCAAATC
	ACATAGTGAA	TTGTTTCTT	TGTTTTTAAA	TCTCTGCAT	ATGTGTCTCG	TCTTCTCCC	TGTGTTGGGC
	GTTCCCTGGG	GCACCAATAC	TAATTTCTCC	TTCCCCTAGA	AATCAAAACA	GGGTCTTATC	ACCAACAGAA
	TAAGGACAGG	TTGACCACTG	ATTGTCAGAA	TATTGCTTCG	TTTG TACTTT	TAAGCCTAGA	CAGTTTTCAA
45	TGACTTTTTT	TCTCTCTACA	TGCTTTTTCA	TATTTTTATC	TTCTTGAAGT	CCCTCAGAAA	CCTAAGGTCT
	CCTTGAACCC	TCCA TGGAAT	AGAATATTTA	AAGGAGAGAA	TGTGACTCTT	ACATGTAATG	GGAACAATTT
	CTTTGAAGTC	AGTTCACCA	AATGGTTCCA	CAATGGCAGC	CTTTCAGAAG	AGACAAATTC	AAGTTTGAAT
	ATTGTGAATG	CCAAATTTGA	AGACAGTGGA	GAATACAAAT	GTCAGCACCA	ACAAGTTAAT	GAGAGTGAAC
	CTGTGTACCT	GGAA GTCTTC	AGTGGTAAGT	TCCAGGGATA	TGGAAATACA	GATCTCTCAT	GTGAGGGATG
50	GCTCATCTGA	AGATGGGAAA	AAACAGGTTA	TTCCAAGGGT	TAGGACACCA	GAGTGGGATT	CAAGGCCTCT
	CATTTTTAAG	ACCCCTGCAT	TGGCTGGGCA	CAGTGGCTCA	CGCCTGTAAT	CCCAGCACTT	TGGGAGGCTG
	AGGCAGGTGG	ATCACGAGGT	CAGGAGATCG	AGACCATCCG	GCTAACATGG	TGAAACCCCA	TCTCTGCTAA
	AAAAATATATA	TATA TAAAAT	TAGCCGGGCG	TAGTGGTGGG	CACCTGTAGT	CCCAGGTA CT	CGGGAGGCTG
	AGGCAGGAGA	ATGGTGTGAA	CCCAGGAGGT	GGAGGTTGCA	GTGAGCTGAG	ATCACGCCAC	TGCCCTCCAG
55	CCTGGGCTAC	AGACCAAGAC	TCCGTCTCAA	AAAATAAAATA	AATAAAATAAA	AAAGACCCCT	GCATCTCTTT
	TCTTCTACCC	CCTTCCCTTT	TGATTACTTG	TATGCCTTCT	TTCAATATTC	TAGTCATCTC	TCAATATTAT

[illegible]

TCCTCCACCC TATTITCCTC TATCTTTTCT GCCTAGATTC AGGTATATAT TATGTGGTCA AACAGCATGA
 CATATATGTG AACATTTCAA AGAGCTGTGT ATCTGGAATA GGATCAAAAG GTTTGACTTA AAGTTTGTCT
 CTGCATAATC CATATGGCAG GACCTGAATA TTAGGTTGTA CTCTTCGTTA TGAACATAT CTGGGTACAT
 TTCCTTATGT CCTCTGTGT TACTTAAGAA CACATATTTT ATGCTTGTTT CATTTTATC ACTCCTACTG
 5 CCAACAAATA GCAIAGCATG CTTAGGCACA TGTGGCTTAA TTAGCAAATG TTGAATAAAC AAATTAATGA
 TTTTGAATAG TGACCAATAG GTCTCTTTTA TACTCTATAT TTTTCTCTTG AGTGAAAAAA AATGTTTCAA
 CCTCCATATG TAAATTTCAA ACACAACTA AAGCAATGTA GAATAGCTTC TTTATTCCTT GGAGTAGGTT
 CTAGAGAAAG CCTAAAGGAT TGGTCCTAAA TTAATTATGC TTATTATGCT AGCGATATTT CCTTTCAAAA
 TTCTCCTTTA ATGAATGCTT TTAAATTTT ACAAAAGCAT TAACCATAGA ATGTGATTCT TGTCTTTCAC
 10 TGACTCATTA GTGACAAATA TTTGTTGAGT ACCTACCAAC TCCTAAGTAT TGCTACCAAC TCCTAAATAC
 TGTGTTGGGC ATTCAGAATA GAATGTAGAA CTAGACAGGG TCCCTGACTT CTTGGAGCAC AGAGCAGTAT
 GGGAAAGAGGA CATTAATAA AGAATTACAT AAGTAATTAA TTTAAATTAT ACATGTTTTG AAGAAGTTTT
 TTTTGGACAA CTATAATTAA CACTAGAACT GGGAAAGTTT TATAAGGTAA GAGAGGACAA AATAGACACT
 CTCCTAAGCT AAAATTTCCA AGAAAAGACTG TTTATTTTCC CCTAACTAAC TAGAACTAGC AACAGAAGAT
 15 CTGAAAGGAA TTCTGGCTTT CAAGTGTTCC ATGTATGGAC TCATCAGGGA GGTCCGAGAG GCTTTGTGGC
 CCCAGACTGA CTTTTCAGGA GGGGAAAAGGA TTTATCAATA CACAAGACAG GCTCTAAGCA TTATTTGTG
 CCCTTTAAAA ATCCACTTTA TGAGCCAAAA AGTGAGTTAA TGATAATTCA TAGTTTCTGA CACATGCTCT
 ATGCGTGGCT CTCTTTTCTC TATTCATTCT CTCTCTCTC ATTTATTGTT AAATAAATAA TGTAATGAAT
 GTTCTTCAGA CTGGCTGCTC CTTCAGGCCT CTGCTGAGGT GGTGATGGAG GGCCAGCCCC TCTTCTCAG
 20 GTGCCATGGT TGGAGGAACCT GGGATGTGTA CAAGGTGATC TATTATAAGG ATGGTGAAGC TCTCAAGTAC
 TGGTATGAGA ACCACAACAT CTCCATTACA AATGCCACAG TTGAAGACAG TGGAACCTAC TACTGTACGG
 GCAAAGTGTG GCACCTGGAC TATGAGTCTG AGCCCTCAA CATTACTGTA ATAAAAGGTG AGTTGGTAAA
 GGAAAGGAAA AGCATCCATA GCAGGGGAAG GAAGAGAGAA CTTCTGAGCC TGAGCAGTTG CAGCTGTAG
 AAGGGGGGCA CCTGTGATAC ACTGGAAGGC CTACCAGACT TGCAATGAGG AGACCTGGGT GATAGTATAT
 25 ATCTCAATCT CTGTTTCAAA GCCTTGACTT GTTAAATGGT GATAGTAATA CCTGCTTGCA CTATGAAATT
 TTTATGAAGA TTAAITGGT AATATTGTG AAATGACTTT GTAACTGTT AAGCACTACC CAAGCATAAC
 AGATTGTGAT TACTATTTT ATCTCAAAGT CATCTGTTGC TCCTGGGGGA ACATTATAT TTATCAAATT
 GAAAAAAGT TTCAAAGTTG AATGAAGAAA GGATATAAAG AGCTTGAGGA GCCCATTCCA GCTTAGGAGG
 GCTGGGAAAG GAAACAGCA AGTCAGTAAG CTGTGTGCC CTGTATTGAG GGAGGAGGGA ATGGACTTGA
 30 TATGGAGAGG GTACGGAGGT GGAAGTGCCTC TATGGCCTGT AAGAAAAACT GCTCTCTCCA AACTCTTAT
 AAGAGAGGGA GCCGTGAAG TATTCACTTT TGAAGGAGAA AGTTAGACTT TTCTTTCACA CACTTGTGAC
 ATAATAATGT TTAAAAAGC ATGAGGTCAA AATACATAAT TAAGTCCTAG CAGTTCTCTG TTAACATAAT
 TGAGACTGAA GTGCTATGTA CTTGTCTCTA GGCTTCCAGT ATCTTCATCT GTAAAAACAGA ATATTGGTC
 TAGATTCCAT TAGAATCATT TGATAACTTA AAAAATATAT TGATGCTCAT GTCTCATTTT TTGAGATTCT
 35 GATTTAATTG GTTTGGGGTG CAGCCTGGGT ATACGTATTT TTCATAGGTC TTTCACATAA TGGTAATGGG
 TAGCCAATAT TGAGAATCAC TTGTCTAGGT GATCTTTAAA TGATTTCTGG ATGTAATATT CTGAGGCTCT
 ATAATTGAG ACTAATCACA AAAATCGGTA CAGTTTATAA ACAGACTAAC AGAACCACAA AATAATAGAA
 TTGGAAGGCA ATTTAACTAG TGCAATTTCT TCATTTTGCC TAACAGGCAT GTAAGAAATG ATGATTGATT
 GAGTAATAGG CATGTATGAC CCCTGTCTCT ACTTTGTCCC CTTTCCACCC CTTAATTATA TGTGAATTCT
 40 GGTCTGTGCA TTCTGAATAA GGGGTTTATC TTTCTATTG TCTTCCCCTC TGGGCACGGC AACTGGCTA
 CTGGAGTTAA GAGGAAATGC TTAGGACTCC CTGTGGCTCC AGGGAGCACC AACAGAGCAA CTCAACCTAG
 TGTAAATCTG AGTGTTTCT CTGTGCTTCT GGATGCCACA TCACGCTAAA AATGAAGGAC AAAGCTTGGT
 CTTTCTCTTA GGGAGATGA AACTCTGAAC CTCATTTTTC AGTTCCCAAG ATGAATTATG TTTCTCATTG
 CATCTGTGTT CCACATACAG TCCGCGTGAG AAGTACTGGC TACAATTTT TATCCCATTG TTGGTGGTGA
 45 TTCTGTTTGC TGTGGACACA GGATTATTTA TCTCAACTCA GCAGCAGGTC ACATTTCTCT TGAAGATTAA
 GAGAACCAGG AAAAGCTTCA GACTTCTGAA CCCACATCCT AAGCCAAACC CCAAAAAACA CTGATATAAT
 TACTCAAGAA ATATTGCAA CATTAGTTTT TTTCCAGCAT CAGCAATTGC TACTCAATTG TCAAACACAG
 CTTGCAATAT ACATAGAAAC GTCTGTGCTC AAGGATTAT AGAAATGCTT CATTAACTG AGTGAACTG
 GTTAAGTGGC ATGTAATAGT AAGTGCTCAA TTAACATTGG TTGAATAAAT GAGAGAATGA ATAGATTAT
 50 TTATTAGCAT TTGTAAAAA GATGTTCAAT TTCAATAAAA TAAATATAAA ACCATGTAAC AGAATGCTT
 TGAGTATTCA AGGCTTGCTA GTTGTGTTGT TTGTTTCTA CTAAGGCAA GGACCATGAA GTTCTAGATT
 GGAAATGTCC TCTCTGACT ATTGCAAGTG CGATCTAGGA ATGAAAAGAC ATAGGAGGAT GCCAGTGAGG

004040" 5494560

TGGATCATTT TTATGCTTCT TCTTCAGCTT ACTAAATATG AACTTTCAGT TCTTGGCAGA ATCAGGGACA
 GTCTCAAGAC ATACGACTCT CAGGATGAAG TAGAGTCCAG GATTCTCTG TGATTGTTTT GCCCTCCCA
 AATTTATATC TTGAACCTAT GTCTTGATC TTTATACAGC ACCTGAACCA AGCATTTTGG AGAAATCCA
 GCTAATAATA ATAAACAAAA CCTTCGGCTC TGAAACAGT CCAGGACTGA ATAAGATCTT GGGCAAAAGA
 5 ACTAGACAGT TTTGGTTTAT TTTCCCTTTC ATTTTATGTC TTCATCATAG TCATTGGAGG CTCATTCTTC
 TTGTATGGA GTAAATGGGA TTAAAGTTC TACTAAGAGT CTCCAGCATC CTCCACCTGT CTACCACCGA
 GCATGGGCCT ATATTGAAG CCTTAGATCT CTCCAGCACA GTAAGCACCA GGAGTCCATG AAGAAGATGG
 CTCCTGCCAT GGAATCCCT ACTCTACTGT GTGTAGCCTT ACTGTTCTTC GCTCCAGATG GCGTGTAGC
 AGTCCCTCAG AAACCTAAGG TCTCCTTGAA CCCTCCATGG AATAGAATAT TTAAAGGAGA GAATGTGACT
 10 CTTACATGTA ATGGGAACAA TTTCTTTGAA GTCAGTTCCA CCAAATGGTT CCACAATGGC AGCCTTTCAG
 AAGAGACAAA TTCAGTTTG AATATTGTGA ATGCCAAATT TGAAGACAGT GGAGAATACA AATGTCAGCA
 CCAACAAGTT AATCAGAGTG AACCTGTGTA CCTGGAAGTC TTCAGTGA CTGCTGCTCT TCAGGCCTCT
 GCTGAGGTGG TGATGGAGGG CCAGCCCTC TTCCTCAGGT GCCATGGTTG GAGGAACTGG GATGTGTACA
 AGGTGATCTA TTATAAGGAT GGTGAAGCTC TCAAGTACTG GTATGAGAAC CACAACATCT CCATTACAAA
 15 TGCCACAGTT GAAGACAGTG GAACCTACTA CTGTACGGGC AAAGTGTGGC AGCTGGACTA TGAGTCTGAG
 CCCCTCAACA TTACTGTAAT AAAAGCTCCG CGTGAGAAGT ACTGGCTACA ATTTTATATC CCATTGTTGG
 TGGTGATTCT GTTTGCTGTG GACACAGGAT TATTTATCTC AACTCAGCAG CAGGTCACAT TTCTCTGAA
 GATTAAGAGA ACCAGGAAAG GCTTCAGACT TCTGAACCCA CATCCTAAGC CAAACCCCAA AAACAACCTGA
 TATAATTACT CAAGAAATAT TTGCAACATT AGTTTTTTC CAGCATCAGC AATTGCTACT CAATTGTCAA
 20 ACACAGCTTG CAATATACAT AGAAACGTCT GTGCTCAAGG ATTTATAGAA ATGCTTCATT AACTGAGTG
 AAAGTGGTTA AGTGGCATGT AATAGTAAGT GCTCAATTAA CATTGGTTGA ATAAATGAGA GAATGAATAG
 ATTCATTTAT TAGCATTTGT AAAAGAGATG TTCAATTTCA ATAAAAATAA TATAAAACCA TGTAACAGAA
 TGCTTCTGAG TAAAAA AAAA AAAAAA TCTCAATATA ATAATATTCT TTATTCCTGG
 ACAGCTCGGT TAATAAAAA ATGGACACAG AAAGTAATAG GAGAGCAAAT CTGCTCTCC CACAGGAGCC
 25 TTCCAGTGTG CTTGATTTG AAGTCTTGA AATATCTCC CAGGAAGTAT CTTCAGGCAG ACTATTGAAG
 TCGGCTCAT CCCCACT GCATACATGG CTGACAGTTT TGAAAAAAGA GCAGGAGTTC CTGGGGGTAA
 CACAAATTCT GACTGCTATG ATATGCCTTT GTTTTGAAC AGTTGTCTGC TCTGTAATTG ATATTCACA
 CATTGAGGGA GACATTTTTT CATCATTTAA AGCAGGTAT CCATTCTGGG GAGCCATATT TTTTCTATT
 TCTGGAATGT TGTCATTAT ATCTGAAAGG AGAAATGCAA CATATCTGGT GAGAGGAAGC CTGGGAGCAA
 30 AACTGCCAG CAGCATAGCT GGGGGAACGG GAATTACCAT CCTGATCATC AACCTGAAGA AGAGCTTGGC
 CTATATCCAC ATCCACAGTT GCCAGAAATT TTTGAGACC AAGTGCTTTA TGGCTTCTT TTCCACTGAA
 ATTGTAGTGA TGATGCTGTT TCTCACCATT CTGGGACTTG GTAGTGCTGT GTCACCTACA ATCTGTGGAG
 CTGGGGAAGA ACTCAAAGGA AACAAGGTTT CAGAGGATCG TGTTTATGAA GAATTAACA TATATCAGC
 TACTTACAGT GAGTGGGAAG ACCCAGGGGA AATGTCTCCT CCCATTGATT TATAAGAATC ACGTGTCCAG
 35 AACACTCTGA TTCAAGCCA AGGATCCAGA AGGCCAAGGT CTTGTTAAGG GGCTACTGGA AAAATTCTA
 TTCTCTCCAC AGCCTGCTGG TTT AAGCTTTTCA AAGGTGCAAT TGGATAACTT CTGCCATGAG AAATGGCTGA
 ATTGGGACAC AAGTGGGGAC AATTCCAGAA GAAGGGCACA TCTCTTCTT TTCTGCAGTT CTTTCTCACC
 TTCTCAACTC CTACTAAAAT GTCTCATTTT CAGGTTCTGT AAATCCTGCT AGTCTCAGGC AAAATTATGC
 TCCAGGAGTC TCAATTTT TATTTCATA TTAGTCTTTA TTTAGTAGAC TTCTCAATTT TTCTATTCT
 40 CACAAGTAAA AGCCTGTTGA TCTTAATCAG CCAAGAACT TATCTGTCTG GCAAATGACT TATGTATAAA
 GAGAATCATC AATGTCATGA GGTAACCCAT TTCAACTGCC TATTCAGAGC ATGCAGTAAG AGGAAATCCA
 CCAAGTCTCA ATATAATAAT ATTCTTTATT CCTGGACAGC TCGGTTAATG AAAAAATGGA CACAGAAAGT
 AATAGGAGAG CAATCTTGC TCTCCACAG GAGCCTTCCA GGTAGGTACA AGGTATTATT TTTTCTACC
 CTCAGTCACT TGTGGCAGGG GAAGTCATAG TCACGGTGCT TAGGAGATGA AACTTTATTG ATTTAGGCAT
 45 GGATCCATCT AGTTTAAATTA ATATATTGGG TATGAGGAAG CTAATTGCTG TACTTTCCAT GTGGTCTCT
 CTCCTGGAG AGGAACATTT TTA CTAGCT TGCAAACTGG AAATAGATTT TCTCACATTA GAAGCTCATT
 TTCTGGGTAT GAGACAGGAG AGTTCATACT GTGTATGTAG ATCTCTGGCT TCTGGGTCTG ACATGTGCTG
 AGGGACACAT ATCCTTACCA CATGCTTTTA TAAATACTTG ATAAAGTAAC CTGCTTCTTG ATTGGTCTTT
 ATAATCCATA AGCTGTGGGA TGCTTCTCTG AAGATGAAAA TAGTAATAGA GTCCCATCTA GCTATTCAAA
 50 GCCATTCCTT CATTGTATTC TGTGCACATG AAGTTGGGGT TTGTTACTGA CAAAATATAT TCAGATACAT
 TTCTATGTTA AAAGTATTGT GAGATGCATA GGTAAATGTG TTTATTTTCA GTTTTACTTG TCAACATAGA
 TGAATGAGAA AGAATCTGAA AGTAACACTG GATTAAGAAT AGGAAAATTT GGCATGGATT TTGCTCCATT

004040 " 6294360

TTGTCCCATC TAATCACTTG GATAGTGTTT AGGTGTTCTT GGTCAGTTAC TTGGATGCTC TGAGCTTTAG
 TTTCTTGGTG ATTAACAATGA AGATTTGAAT TACAGGATGG CTTTGAAAAA ATAAACAAAA CTCCCCTTTC
 TGTCTGTGCA GAATGTTGCA CAGGGAGTTA CAGAATGTTT TCATGACTGA ATTGCTTTTA AATTTCACAG
 TGTGCCTGCA TTTGAAGTCT TGGAAATATC TCCCCAGGAA GTATCTTCAG GCAGACTATT GAAGTCGGCC
 5 TCATCCCCAC CACTGCATAC ATGGCTGACA GTTTTGAAAA AAGAGCAGGA GTTCCTGGGG GTGAGTGAGC
 CTCTCCAAC TTTGACTAGA GTAAGGGTTG GGTCTAGAAA AGAATATTGA GTTGACATCA CTGTTTCCC
 ACTTGATTTC ATGAGAGGTG TTAGGTCCTT TAAAAACAT GGTAGATAAA GAGTTGACAC TAACTGGGTC
 CTTTGGGAA GAGCCAGAAG CATTTCCTCA TAAAGACTTT AAATTGCTAG GACGAGAATG GCCAACAGGA
 GTGAAGGATT CATCACTTTA TCTTACTTA GATGTAAAGA ACAATTACTG ATGTTCAACA TGACTACATA
 10 CATAAAGGCG CATCAGAAA AGTATTGGCC TTCCATGCAT TAGGTAGTGC TTGTATCAAT TCTTATAGTG
 GCTAGGGTAT CCTGGAATAA CTTACGTGTG GATCATTCTT CAGGACAGTC TAGGACACTA ACGCAGTTTC
 TCATGTTTGG CTTCTATTAT TAAAAATGA TACAATCTCG GGAAAATTTT TTTGATTTTC ATGAAATTCA
 TGTGTTTTTC TATAGGTAAC ACAAAATTCTG ACTGCTATGA TATGCCTTTG TTTTGAACA GTTGTCTGCT
 CTGTACTTGA TATTTCACAC ATTGAGGGAG ACATTTTTC ATCATTTAAA GCAGGTTATC CATTCTGGGG
 15 AGCCATATTT GTGAGTATAT ATCTATAATT GTTCTGAAA TAACACTGAA CATAGGTTTT TCTCTTCTC
 AGATCTAACC AGTIGTTTAT TCCAGTATT AAGATGATAT TTATAATTCT TAATTATAAA TATATGTGAG
 CATATATAAC ATAGATATGC TCATTAACAA CAACAAAAGA TTCTTTTAC AATTAACGGT GGGTTAAACA
 TTTAGCCAC AGTTTATCC CATGAGAAAC CTGAATCTAA TACAAGTTAA ATGACTTGCC TAAGGCCAC
 TTGACTAATA GTAAATTGAAC CTAACCTTTC AGAATCCAAC TCCAGGAACA TACTCTAGC ACTATTCATC
 20 AATAAAGTTA TATGATAAAT ACATACAAC TTATCTGTCA ACTAAAATA ACAACAGAGG CTGGGCATGG
 TGGCTCACAC CCGTAATCCC AGCACTTTGG GAGGCTGAGG CAGGTGGATC ACCTGAGGTC AGGAGTTTGA
 GACCAGCTG ACCAACATGG TGAACCTCA TCTCTACTAA ATATAAAAAA TTAGCTGAGT GTGATAGTGC
 ATACCTGTAA TCCACTACT TAAGAGGCTG AGGCAGGAGG CTGTTTGAA CCTGGAAGGC AGAGGTTGCA
 GTGAGCTGAG ATTGTGCCAT TGCCTCCAG CCTGGGCAAT AAGTGCGAAC TCTGTCTCAA AATAATAATA
 25 ATAATAATAG AAAATAAAGT TGTCTTCATG AAAATGAGG AAAGAGATTG CTGGGGTGAG AAACATTAAG
 ATCAATGGGC ATAAGGTGAC CTTCTATGCC CTAGAACTC TTTTANGGTA TTTTCTCTG GTATCTCTTT
 TACNCATCGT TCTATCTGGA AAAATAGGTG GATGAGTGAG ATAATAACGG TATATACTTT TTAAAGGTCT
 AATTGACATA TATAAATTGC AAGTATTTCA GATGTCAATT TGCTAACCTT GACACACATA GACACACATG
 AAAACATCAC CACAATAATA CAATGTATGT ATCCATCATT CCAAAAGCTT CCCTGTGTAT CTTTGTAAC
 30 CTTTCTTCTT CCCTCCACTC CTTGTCTCTT CGTTCCCAAG AAAACATTGA TCTGCTTCTT GTGAATATAA
 ATTAACCTAC ATTTTITAGA GCTTATATA AGTATGTTCT CTTTACTGTT TGCTTCTCTT CGCTGCACAG
 TTATTTTGAG ATTCTTCAAG TTTTCTTT ATATCGATAC TTCATTCAACA AGAATATATT TTAATTCTAG
 ACTATGTCAC ATTGACTTTG TCGTCTGCTA AATCCTTAGT GCTCAGATGA CTGTTCAGG ACTCTCCTTG
 AACCTGTACC TCTGTTANAT TGAACCTTGT CTCTACTGTC TTTTATTTT AAACACAGCT TATTAGGTGT
 35 CTCTCAACCC ATCAAACNCA CAATCTGAGT CTTTAGGAGA TTGCTTTGAA TTTGTGCTAT TGACTTATAT
 NTATATNAAA TNGTAAATG TTTGGTAAAA ATATCATCAT GTACNTTTT ATAATTACGC TATNTNCACA
 TGATATATGT CAGACTCTGG AAATATGCAT GCCACAGACA CGTGTTTCTT GCCTAAAGGG GCTGATGGAA
 GACNCACATA CNAATAGACG ATTGCAGTAG AATGAGAGTG GTGGTCTAAN CAGTACATGT CCTGATGTTG
 CTCGGACAGT TACTACNCCA AGAGTACCCC CTGCATTGTC AGGGTTAGCA TCTCCTGGAA GCCTCATGTA
 40 AATGAAGAAT TTCACTGCTC ATCCAGGACC TAATGAATAA GAATCTGCAT TTTAGCAAGA CCCTCATATG
 ATTCATATAC ACTTTTITTT TTTTTTTT GATGGAGTCT CACTCTTGTC GCCCAGGCTG GAGTGCAATG
 GCATGATCTT GGCTCACTGC AACCTCTGCC TCCCGGGTTC AAGTGATTCT CCTGTCTCAG CCTCCCTAGT
 AGCTGGGACT ACACGTGCAT GCCACAGTGG CTGGCTAATT TTTGTATTT TAGTAGAGAC AGGGTTTCAC
 CATTTTGGTC AGGCTGGTCT TGAACCTCAT ACCTCCGGTG ATTCCCCCGC CTCGGCTTCC CAAAGTGCTG
 45 GGATTACAGA CATCAGCCAC CACACCCGCC TTATTCGTAT ACNCATTTAA TTCTGAGAAG CACTCTATAG
 AAAATAAGAA TAAACAAAATA TTGGGCTCAC AGGTGACATT AATAAGTAAC TTTATCGAGT ACCCCAAATT
 TTACCTATGT TTGGAAGATG GGGTTAAAG GACACATTGA AAACAAGAAC TCATTGTGGC TTTTTTTTCC
 TCCTTTTTGA ACAGTTTCTT ATTTCTGGAA TGTGTCAAT TATATCTGAA AGGAGAAATG CAACATATCT
 GGTGAGTTGC CCGTTTCTGT CTTTGTCCAT CCTTGAAAAG ATAAGAAGAA CAGAGTTTTA AGAGTCTTAA
 50 GGGAAACACA TCTTGTCTC CTATATTACT TGTGAATGTG GATATATGAT TTTGTTTCAA TCTATTTTGT
 GTCCTAAGGC TTTTTCGAAC AGAAGTTGGA TATATCATTA GAAACATAAA TTGTACCATT TAACATACAT
 GAAGTTTATG TTACCTTGA CGTCTTCTA AAAAGTGTC TACACCGGCA TTGTCCTTGT AGGCATATTC

004040 " 62964360

ACATGATCAA ATA^AAATAAT TAGT^TTTTCAA TTAAGGAGAA TATTTGAGGA AAGACCGTAC GTGTTTCATGT
 GGTTCCTGAA GGC^AGTCCAG TGAGAAAAGTA ATATATGCTT CATTA^AACAA TGCGGACATT TTCAGGGTTT
 CCCTTTTAA CCAA^AAATTG GAAGCAATGT GGAATTTACT GGATGCATCC AGCCCTGAAA TGAAGATAGG
 TTTATTGAAT GTGC^AAGCAA GTGCAGGCCC AGGTCTGAGT GTTCTTCATT ATTATCAGGT GAGAGGAAGC
 5 CTGGGAGCAA AC^ACTGCCAG CAGCATAGCT GGGGGAACGG GAATTACCAT CCTGATCATC AACCTGAAGA
 AGAGCTTGGC CTA^AATCCAC ATCCACAGTT GCCAGAAATT TTTGAGACC AAGTGCTTTA TGGCTTCCTT
 TTCCACTGTA TGTA^TTTTTT TTTGTGTGGG AAGACTAAGA TTCTGGGTCC TAATGTAAGT AAGAAGCCCT
 CTTCTCCTGT TCCA^AGAACA CCATCCTTTT CTGTA^ACTTC TATTACACAG TATAGTGGTT CTGTAAGTTC
 ACACAGCCCA GGG^AGATGCT GGCTGCCAC TCCCCTCAAC CCAGGCAAAT TCCTCGGGGT TAAAGTTATC
 10 TACTGCAAGT GAC^AATCTCT GGGTTTTTCT GTGCCTGTGT TTGTGTGTGT GTGTGTGTGT GTGTGTGTGT
 GTATGTGTCA CTTT^AAAAAG ACTGGTCAGA TGGTAGGGAG ATGAAAACAG GAGATGCTAT AAGAAAATAA
 ACTTTTGGG CGA^ATACCA TGTGACTCTT TTTGTTGTGCT ATTTGTGTGCT GTTCAATAGG AAATTTGAGT
 GATGATGCTG TTTCTACCA TTCTGGGACT TGGTAGTGCT GTGTCACTCA CAATCTGTGG AGCTGGGGAA
 GAACTCAAAG GAA^ACAAGGT AGATAGAAGC CCGATATAAA ATCTTGAATG ACAGGTTAAC GAATTGGAGC
 15 TTTATTCTT AAA^AIATGGC CTGGGTTTTT TGAAACATTT CTTCCAGAAA ATAGTTTCTC CAAGTTTTAT
 TACTTTGGTT TACAAATCTC ACATTTAAAT CACATTTTAT ACCATAAGTA GCACACATTT CATAATATTC
 CTCTGAATGA GGG^TTGGGAT AATAGGACTG ATATGTTAGA AATGCCTTAA AGTGTGTGGA GCATGAGAGA
 TGGATGTACA GAA^GGCTTGT GAGGAAACCA CCCAGGTATC TGGCCTTGTT TTCTGCCCCA GAACTAGCCG
 CCTATTCTG TTTCTGTTT ATCTCTTTGT TTCTTGACTT TTCCTTTCCA ACTTGCTCTA AAACCTCAGT
 20 TTTCTTCTT TTCTGATTCA TGACTACCAA ATGTTTTAC TTGCCTCACC CGTCCATTAC ACCTTTGATA
 AGAACCACCA GAC^TTGTGC TCATGTACTT GCCCATGTCT GATGGAAGAA ACATACTCTC TCCATCTGTC
 CACTTTCCTG AGGCATTCAA GTCTAGCCAC CTTTTAAAT CACTCTCCTC CAGGCTGGGC ACGGTGTAC
 GCCTGTAATC TCAG^AACTTT GTGAGGCTGA GGAGGGCGGA TCACTTGAAG TCAGGAGTTC AAAACCAGCC
 TGGCCAAATG GCA^AAACCA ATCTTCTTCA ATTATAACCA AATCTTAAAC CAAATCTCTA CTAAAAATA
 25 CAACAAAACA AAAC^AAACAAC AACAAAAACA GAAAAGGAAA CATTAGCCCA GCGTGGTGGC AGGTACCTGA
 GGTTCCAGAT ACT^TGGGAG CTGAAGCAGG AGAATCGCTT GAGCCCAAGA GATGGAGGTT GCAGTGAGCC
 GAGATCATGC CACTGCACCA CAGCCAGGGT GACAGAGCCA TACTTCCCAG CACATTGGGA GGCCAAAGCT
 GAAGAATAAT TTGA^GGGTGAG GATTTGGAGA CCAGCCTGGC CAACATGGTG AAACCTCCGT TGTACTAAAA
 ATATAAACT TAGTGGGGCA TGGGGGCACA CACCTGTAAT TTCAGCTACT TAGGAGGCTG AGGCAGGAGA
 30 ATTGCTTGAA CCCG³GAGGC GGAAGTTGCA GTGAGCCAAG ATCGTGGCCA CTGCACTCCA GCCTGGGTGA
 CATAGTGAGA TTCTGTCTCA AAAAAATAA AAGAAATTTA AAAAATCACT CTCTTCCAAA GATAGATAAA
 TAAGACAGCA GAT^ATACTAA GGAATAACCT CACCAACTTG TCATTGACTG ACATGATTTC TTTTGGCCCA
 CTTGGCCAGC TAGTCTGGTT TGGTTTTCTG GAAATGAAAG AAATAATCAG AGTTTAATGA CAGAGAGCGT
 GAGACCCAGA AAG^ACAAAAG TAGATGAGGT AAGTCTCTTG AGCGAGACTT CTAGGGATGG GAAATTTGTG
 35 GTGATTGATA TGA^AATGATT TTTCCCTTAT CAGGTTCCAG AGGATCGTGT TTATGAAGAA TTAAACATAT
 ATTCAGCTAC TTACAGTGAG TTGGAAGACC CAGGGGAAAT GTCTCCTCCC ATTGATTTAT AAGAATCACG
 TGTCCAGAAC ACTCTGATTC ACAGCCAAGG ATCCAGAAGG CCAAGGTTT GTTAAGGGGC TACTGGAAAA
 ATTTCTATTC TCTC^ACAGC CTGCTGGTTT TACATTAGAT TTATTGCCT GATAAGAATA TTTTGTCTT
 GCTGCTCTG TCCACCTTAA TATGCTCCTT CTATTTGTAG ATATGATAGA CTCCTATTTT TCTTGTTTTA
 40 TATTATGACC ACACACATCT CTGCTGGAAA GTCAACATGT AGTAAGCAAG ATTTAACTGT TTGATTATAA
 CTGTGCAAAT ACAGAAAAAA AGAAGGCTGG CTGAAAGTTG AGTTAACTT TGACAGTTTG ATAATATTTG
 GTTCTTAGGG TTTT^TTTTTT TTTTAGCATT CTTAATAGTT ACAGTTGGGC ATGATTTGTA CCATCCACCC
 ATACCCACAC AGTCACAGTC ACACACACAT ATGTATTACT TACACTATAT ATAACTTCCT ATGCAAATAT
 TTTACCACCA GTCAATAATA CATTTTGGC AAGACATGAA GTTTTATAAA GATCTGTATA ATTGCCTGAA
 45 TCACCAGCAC ATTCAGTGAC ATGATATTAT TTGCAGATTG ACAAGTAGGA AGTGGGGAAC TTTTATTAAG
 TTA^CCTGTTG TCTGGGGAGG TAAATAGGTT AAAAAACAGG AAATTATAAG TGCAGAGATT AACATTCAC
 AAATGTTTAG TGAAACATTT GTGAAAAAAG AAGACTAAAT TAAGACCTGA GCTGAAATAA AGTGACGTGG
 AAATGGAAAT AAT^GGTTATA TCTAAAAAT GTAGAAAAAG AGTAACTGGT AGATTTTGTT AACAAATTA
 AGAATAAAGT TAG^ACAAGCA ACTGGTTGAC TAATACATTA AGCGTTTGAG TCTAAGATGA AAGGAGAACA
 50 CTGGTTATGT TGAT^AGAATG ATAAAAAGG TCGGGCGCGG AGGCTCACGC CTGTAATCCC AGCCCTTTGG
 GAGGCCGAGG TGG^GCAGATC ACGAAGTCAG TAGTTTGAGA CCAGCCTGGC CAACATAGTG AAACCCGTC
 TCTACTAAAA ATACAAAAAA AAAATTAGCT GGGTGTGGTG GCAGTCACCT GTAGTCCCAG CTACTGGGA

004040 " 62964560

GGATGAGGCA GGACAAATCGC TTGAACCTGG GAGGCGGAGG TTGCAGTGAG CCGAGATCGC ACCAGTGCAC
 TCCAGCCTTG GTGACAAATGG GAGACTCCAT CTCAAAAAAA AAAAAAAGATA AAAAGTCAGA
 AATCTGAAAA GTGACAGGAAG AGTACAAATA GACCTAAATT AAGTCTCATT TTTTGGCTTT GATTTTGGGG
 AGACAAAGGG AAAAGCAGCC ATAGAGGGCC TGATGACATC CAATACATGA GTTCTGGTAA AGATAAAATT
 5 TGATACACGG TTTGGTGTCA TTATAAGAGA AATCATTATT AAATGAAGCA AGTTAACACT CTAAGAGAAT
 TATTTTGAGA TAGAAGTGAA GCTAAGCTAA ACTTCACATG CCTATAATTG GAGGGAAAAA CTAAGGATAA
 AATCTAGCCT AGAAGATACA ATAATTAGTC ATAAACATGC ATTGTGAAAC TGTAGAGAGC AGGTAGCCCA
 AAATAGAGAA AGATTAGATA AAGAGAAAAT AAGTATCCAT CAGAGACAGT ATCTCTAGGC TTGGGCAAGA
 GAAAAGTCCA CAGTGATAAG CAACTCCACC TAAGGCATGA ATATGCGGCA GAGAAAACAG CAATAGTGAA
 10 TGAATGCAAA AGGTGCTGAG CAAATCCAC ACATGAGTAT TGTGCATGAG TAAATGAATA AAACATTTGC
 AAAGACCTTT AGAGAAAGAG AATGGGAGCA TATGTGCGAA ATAAGATAGT TGATTATGAA TAGAAGGTAG
 TGAAGAAAAG CAAGCTAAGA AAAAATTCTG TTTATAAAAG AAGGAAAAGA TAGTTTATGT TTTTAGCCTA
 AGTATAAGAG TCCTACAGAT GGACTGAAAA AAATCAGTCT GAGAGTATTA GTCACAATTA ATGAAATAAT
 TACATTTTAT GTATTGAGGA TGCCAAGATT AAAAGGTGAC AGGTAGATGT TAATTTCCCT AGATTGTGAA
 15 AGTGATCACG ACAATCAGAC AACAAATAAT TAAGTGAATT GGTATGCTTT ATTTAATTGT AGGGCCTGAG
 GTTTTCCATT CTCAATTTTC TAAAATACAA TTTTGTCTT CCAAAATTTGA CAGCAGAATA AAAACCCTAC
 CCTTTCAGTG TGTAATCATGC TAAGCTGCAT CTCTACTCTT GATCATCTGT AGGTATTAAT CACATCACTT
 CCATGGCATG GATCTTCACA TACAGACTCT TAACCCTGGT TTACCAGGAC CTCTAGGAGT GGATCCAATC
 TATATCTTTA CAGTTGTATA GTATATGATA TCTCTTTTAT TTTACTCAAT TTATATTTTC ATCATTGACT
 20 ACATATTTCT TATAACAAAC ACACAATTTA TGAATTTTTT CTCAAGATCA TTCTGAGAGT TGCCCCACCC
 TACCTGCCTT TTATAGTACG CCCACCTCAG GCAGACACAG AGCACAATGC TGGGGTTCTC TTCACACTAT
 CACTGCCCCA AATGTCTTT CTAAATTTCA ACTTCAATGT CATCTTCTCC ATGAAGACCA CTGAATGAAC
 ACCTTTTCAT CCAGCCTTAA TTTCTTGCTC CATAACTACT CTATCCCACG ATGCAGTATT GTATCATTA
 TTATTAGTGT GCTTGTGACC TCCTTATGTA TTCTCAATTA CCTGTATTTG TGCAATAAAT TGGAATAATG
 25 TAACTTGATT TCTTATCTGT GTTTGTGTG GCATGCAAGA TTTAGGTACT TATCAAGATA ATGGGGAATT
 AAGGCATCAA TAAATATGATG CCAAAGACCA AGAGCAGTTT CTGAAGTCCT CCTTTTCATC AGCTCTTTAT
 CAAACAGAAC ACTCTATAAA CAACCCATAG CCAGAAAACA GGATGTAGGA ACAATCACCA GCACACTCTA
 TAAACAACCC ATAGCCAGAA AACAGAAATG AAGGACAATC ACCAGCCATC TTTTGTCAAT AATTGATGGA
 ATAGAGTTGA AAGCAACTGG AGCATGAGTC ATATTTGACC AGTCAGTCCT CACTCTTATT TACTTGCTAT
 30 GTAAACTTGA GAAAGCTTTT TTCTCTTTGT GAACCTCAGG TTTTACATCT GAAAATGAGA AATTTGGAAC
 AAAAGATTCC TAACTGGTCT TTCTGTTCCC ATATTCTGTG ATTTTTCAT ATTTAGGATT TTTGGTAATC
 ACAATTACTT AGTTTGTGGT TGAGATAGCA ACACGAATCA GAACTATTGT GTGGACATAT TTCAAAGGA
 GTAGCTCTCC ACTTGGGTA AAGAAAGTAT GCNNGTCGTG GTGGCTCACG CCTGTAATCC CAGCACTTTA
 GGGAGGCCAA GGCCGGTGGA TCACGAGGTC AGGAGATCGA GACCATCCTG GCTAACACGG TGAAACCCCG
 35 TCTCTACTAA AAAATACAAA AAATTAGCCA GGCCTGGTGG CGGGCGCCTG TAGTCCCACG TACTCGGGAG
 GCTGAGGCAG GAGATAGGCA TGAACAGGG AGGCGGAGCT TGCCGTGAGC CGAGATAGCG CCACTGCAGT
 CCCTCTGGG CAAAAGAGCA AGACTGCGTC TCAAAAAAAA AAAAAAAGAA GTGTGTGGAG
 TAGCAGGACA CCTCAACAA TAATATTTT CTAAATCCCT CTGAAAAATG CTAATCAAAG GGTTTTTTTC
 CTAAAAATG TCTTAGAAAT AAAATTTCCC CTTTGGGAGA CCGAGGCTGG CAGATCACGA GGTCAGGAGA
 40 TAGAGACCAC GGTGAAACCC CGTCTCTACT AAAAATACTA AAAATTAGCC GGGGNGTGGT GGTGGGTACA
 CCTGTAGTCC CAGCTACTTG GAGGCTGAGG CTGGAGAATC ACGTGAAC GCCACGTGCT GCTGGGTCTC
 AGTCTCCAC TTCTGTGTC CTCTGGAAGT TGTCAGGAGC AATGTTGCGC TTGTACGTGT TGGTAATGGG
 AGTTTCTGCC TTCAACCTTC AGCCTGCGGC ACACACAGGG GCTGCCAGAA GCTGCCGGTT TCGTGGGAGG
 CATTACAAGC GGGAGTTCAG GCTGGAAGGG GAGCCTGTAG CCCTGAGGTG CCCCCAGGTG CCCTACTGGT
 45 TGTGGGCCCTC TGTCAGCCCC CGCATCAACC TGACATGGCA TAAAAATGAC TCTGCTAGGA CGGTCCCAGG
 AGAAGAAGAG ACAAGGATGT GGGCCCAGGA CGGTGCTCTG TGGCTTCTGC CAGCCTTGCA GGAGGACTCT
 GGCACCTACG TCTGCACTAC TAGAAATGCT TCTTACTGTG ACAAATGTC CATTGAGCTC AGAGTTTTTG
 AGAATACAGA TGCCTTCCTG CCGTTCATCT CATACCCGCA AATTTTAACC TTGTCAACCT CTGGGGTATT
 AGTATGCCCT GACCTGAGTG AATTCACCCG TGACAAAAC GACGTGAAGA TTCAATGGTA CAAGGATTCT
 50 CTTCTTTTGG ATAAAGACAA TGAGAAATTT CTAAGTGTGA GGGGGACCAC TCACTTACTC GTACACGATG
 TGGCCCTGGA AGATGCTGGC TATTACCGCT GTGTCTGAC ATTTGCCCAT GAAGGCCAGC AATACAACAT
 CACTAGGAGT ATTGAGCTAC GCATCAAGAA AAAAAAGAA GAGACCATTG CTGTGATCAT TTCCCCCTC

004040 " 62964560

AAGACCATAT CAGCTTCTCT GGGGTCAAGA CTGACAATCC CGTGTAAAGGT GTTCTGTTGGA ACCGGCACAC
 CCTTAACCAC CATGCTGTGG TGGACGGCCA ATGACACCCA CATAGAGAGC GCCTACCCGG GAGGCCGCGT
 GACCGAGGGG CCAAGCCAGG AATATTGAGA AAATAATGAG AACTACATTG AAGTGCCATT GATTTTGTAT
 CCTGTCACAA GAGAGGATTT GCACATGGAT TTAAATGTG TTGTCCATAA TACCCTGAGT TTTCAGACAC
 5 TACGCACCAC AGTCAAGGAA GCCTCCTCCA CGTTCCTCTG GGCATTGTG CTGGCCCCAC TTCACTGGC
 CTTCTTGGTT TTGGGGGGAA TATGGATGCA CAGACGGTGC AAACACAGAA CTGAAAAAGC AGATGGTCTG
 ACTGTGCTAT GGCTTCATCA TCAAGACTTT CAATCCTATC CCAAGTGAAA TAAATGGAAT GAAATAATTC
 AAACACAAAA AAAA/AAAAAA AAAAAAAA GCCGGAGCCG ACTCGGAGCG CGCGGCGCGG CCGGGAGGAG
 CCGAGCGCGC CGGC CGCGGC GTGGGGGCGC CGGCTGCCCC GCGCGCCCAG GGAGCGGCAG GAATGTGACA
 10 ATCGCGCGCC CGCA/CCGTAG CACTCCTCGC TCGGCTCCTA GGGCTCTCGC CCTCTGAGCT GAGCCGGGTT
 CCGCCCGGGC TGGC/ATCCCA TCACCCTCCA CGGCCGTCCG TCCAGGTAGA CGCACCTCT GAAGATGGTG
 ACTCCCTCCT GAGAAGCTGG ACCCTTGGT AAAAGACAAG GCCTTCTCCA AGAAGAATAT GAAAGTGTTA
 CTCAGACTTA TTTGTTTCAT AGCTCTACTG ATTTCTTCTC TGGAGGCTGA TAAATGCAAG GAACGTGAAG
 AAAAAATAAT TTT/ GTGTCA TCTGCAAATG AAATTGATGT TCGTCCCTGT CCTCTTAACC CAAATGAACA
 15 CAAAGGCACT ATA/CTTGGT ATAAAGATGA CAGCAAGACA CCTGTATCTA CAGAACAAGC CTCCAGGATT
 CATCAACACA AAGA/GAAACT TTGGTTTGTG CCGTCTAAGG TGGAGGATTC AGGACATTAC TATTGCGTGG
 TAAGAAATTC ATCTTACTGC CTCAGAATTA AAATAAGTGC AAAATTTGTG GAGAATGAGC CTAACCTATG
 TTATAATGCA CAACCCATAT TTAAGCAGAA ACTACCCGTT GCAGGAGACG GAGGACTTGT GTGCCCTTAT
 ATGGAGTTT TTAATAATGA AAATAATGAG TTACCTAAAT TACAGTGGTA TAAGGATTGC AAACCTCTAC
 20 TTCTTGACAA TATACACTTT AGTGGAGTCA AAGATAGGCT CATCGTGATG AATGTGGCTG AAAAGCATAG
 AGGGAACAT ACTGTGTCATG CATCCTACAC ATACTTGGGC AAGCAATATC CTATTACCCG GGTAATAGAA
 TTTATTACTC TAGA/GGAAAA CAAACCCACA AGGCCTGTGA TTGTGAGCCC AGCTAATGAG ACAATGGAAG
 TAGACTTGGG ATCC/CAGATA CAATTGATCT GTAATGTCAC CGGCCAGTTG AGTGACATTG CTTACTGGAA
 GTGGAATGGG TCAC/TAATTG ATGAAGATGA CCCAGTGCTA GGGGAAGACT ATTACAGTGT GGAAAACTCT
 25 GCAAACAAAA GAAAGGAGTAC CCTCATCACA GTGCTTAATA TATCGGAAAT TGAAAGTAGA TTTTATAAAC
 ATCCATTAC CTGTITTTGCC AAGAATACAC ATGGTATAGA TGCAGCATAT ATCCAGTTAA TATATCCAGT
 CACTAATTTC CAG/AGCACA TGATTGGTAT ATGTGTACAG TTGACAGTCA TAATTGTGTG TTCTGTTTTTC
 ATCTATAAAA TCTICAAGAT TGACATTGTG CTTTGGTACA GGGATTCCCTG CTATGATTTT CTCCAATAA
 AAGCTTCAGA TGG/AAAGACC TATGACGCAT ATATACTGTA TCCAAAGACT GTTGGGGAAG GGTCTACCTC
 30 TGACTGTGAT ATTTTGTGT TAAAGTCTT GCCTGAGGTC TTGAAAAAAC AGTGTGGATA TAAGCTGTTC
 ATTTATGGAA GGG/ TGACTA CGTTGGGGAA GACATTGTTG AGGTCATTAA TGAAAACGTA AAGAAAAGCA
 GAAGACTGAT TATCATTTTA GTCAGAGAAA CATCAGGCTT CAGCTGGCTG GGTGGTTCAT CTGAAGAGCA
 AATAGCCATG TAT/ATGCTC TTGTTCAGGA TGGAAATAAA GTTGTCTGTC TTGAGCTGGA GAAAATCCAA
 GACTATGAGA AAA/GCCAGA ATCGATTAAA TTCATTAAAGC AGAAACATGG GGCTATCCGC TGGTCAGGGG
 35 ACTTTACACA GGG/CCACAG TCTGCAAAGA CAAGGTTCTG GAAGAATGTC AGGTACCACA TGCCAGTCCA
 GCGACGGTCA CCTTCATCTA AACACCAAGT ACTGTCACCA GCCACTAAGG AGAAACTGCA AAGAGAGGCT
 CACGTGCCTC TCGG GTAGCA TGGAGAAAGT GCCAAGAGTT CTTAGGTGC CTCCTGTCTT ATGGCGTTGC
 AGGCCAGGTT ATG/CTCATG CTGACTTGCA GAGTTCATGG AATGTAAC TAATCATCTT TATCCCTGAG
 GTCACCAGGA ATCAG/3' (SEQ.ID NO:3002)

40 Human Enzyme-related Antisense Polynucleotide

5'-CTT GCT CCT GGG GGC CTC CTG GTC CCT CTG GCT G TT CCC GGC CCT GGB CTG GGG CBG GGG CCG CGT
 BGG CGC GGC TCG CCB GGB CGG GCB GCG CCB GCB GCB GCB GGC TCB GCB TCC TGG CCB CGG BBT TCC GGT
 GTG CGG GGC CTG G/G CC CCT GGG CCT CGG GTG CTG CCT GT GCG CTG CCT TCT TCT CCT GG GTC CTC GCC
 GGG GCC CTT GCT G/C CTG GCT GT GCC CTG GGG GTC TGG GTT CGG CTG T CCC CBG CBG GBC CBG TCC CBT
 45 CCB CBG CGT GTG B/G BGT BGC CBT TCT CCT GCB GCC GBG GGG CGC GGG CGB GCB TCG C TTT GGG CTT
 TTC TCC TTT GGT T TGB GCG CCB GGB CCG CGC BCB GCB GCB GGG CGC GGG CGB GCB TCG CBG CGG CGG
 GCB GGG GGGCTCCCGC CGCGBGBGGT TBTGGGCTCC CBGGBCCBCC CGCBCCGCGC GGBCGTTTBC
 BTTCGCCBCG CBGTGCGCGG CCGBCBTGBC GBBGTGGGC GCBTTCBGGG TGGCGCCGCB GBBGTGGCCT
 CCGCGCBGCT GCBC GGBCBC CBTGBBGGGC CBCGCGTGGG GCCGCGCTCG CCGGCCCCC BCBTCTCCG
 50 BGGCCBGGC GTTC CCCCC BGCBCBBGG CCGGCBGGBC BCBGGCGBGG BGBCBGCGB GTCGGCGGCC
 GBGGGTCTG GTGC GGCTGG GGCTCCGGGG TCTTGCCCC TCCGTGCTGG TGGGGCTGGG GCTCCGGGG
 TCTCTGCCCC TCCG/GCCGC GTGGGGCCGC GCTCGCCGGC CCCCCCTGC CGGGTGGGCT CCGGCGCGC
 CGCGCCCTGC CGGC CCCTCG TGGGTCTGC TGGCCGGTC CGGGTCCCGG GGGTGGGGC GBBGTGGGC

GCCBGGGGTC CCAATCCBCBT CTGCTCTGBC CTGCTGGBCT CTGGBTCTGB BGBTBCGCCB TGTBGGGGCG
 GGBGTGGGGC CTGCTCTCCC GGCCTCCGBT GBTCTCCCT GCCTCBGCCB CBGTGGGTBG GBGBBBGGCC
 BGBGBBGGCB GGBGTGGCTG CBCTTTCTT GGTGGGGCT GCTCTCCCG CCTCCGTGTG TTGCTGGGTG
 TTTTCCCGTC TCTGGTCTGC CTTCGGGGGT CGT CCGGGGCTGC BGCBCCTCB TCBGCTCTTG CCGTGGGTG
 5 CTBGCCTGG GCCTGCBGGG CCBCCBGGBG BBTGGCBGB BGGBTGGCB GGGTCTCTBT GGCTGGGGTC
 BCBGBTCCTC TBGCTBGGCB GGGTGBCCBG BGBGGGC GGG TCC TCB TGG CTG GGG GCC TGG GCC TGC BGG
 GCC GCT CTT GCC TGG BGT GGC TC GCC CBG BGT CTT CCC TGG T CGCTGCBBTC TGCTCCGGGG CTGCBGCBBC
 CTCBTCBGCTC TTGCTTGGBTG GCTCBGCCTGG GCCTGCBGGG CCBCCBGGGBG BTGGCBGCBG GBTGGCBGGG
 TCCTCBTGGC TGGGCTCBCT GGBGBGGGB GBGCBGGGG TCCTCBTGGC TGGGGTCCCT CTCTCCCGTC CT
 10 CGG TTT CCT TTG CGG TC TTG GCC CGG GCT CCG GGT G CCC GCC CGC CCG GCC GCC GC CCC GCC GGG
 CTG TCC CCG CCC CGC CCC GGC CCG GGG CGC GGG GG CGG CCC TCC CGC CCC TCT GG GCC GGC GCG GGC
 GTC GG CCG CTC GCG CCT GGG GTT CCC TCT CCC CCT CTG C GCC TGC CTC TTG CTC TTCTGTG CTC CGC
 TGC CTT CTC CC CTC TCC TCG GCC GTT GCC TGT GC TGT CCG TCC TGT CGC CCT TCC GTG GTG C TGT TGT
 CTC TTC TGC CCT C GGT GTG CTG GTG CTG GTG GTG CCT CTG CCC GTG CTC GCCCTG CCT GGG CTG
 15 GCC TCT TCG GGT GTG GCT TTG GGG CTC TCT TGG TTG CCC TTT CTT CTC GTG GTG CCT CTC CTC CCT GGC
 TTG GTC GT TGT CTG GGG TGG TGC TCC TCT CCC TTT CCC TGC TGG CCG TTT GT CCT GTT TTC TGT CTT CCT
 CT TTC CTC CTG TTT CTC CGT TTG GCT TGC TGC TTG CGG GGC TGT CTC C CTT GCC CCT GTG GGC TTT CCC
 TGG TCC GGT CTT CTC CTT GGG GGT C GCC CTT CTT GGT GGG CTGGCT CGT CTG TCT TTT TCC TTC C TGG
 GGG TGG CCG TTG TGG GCG GTG TGG TCC GCC T TGC CTC TGC TGG TCT TTC CTCGGTBGC GCGCTCBBB
 20 TCGGGTGGGC CGGTGCTGBG CGGCGGCBGB CGCGBBGGC CTGCGCGCC GBGTCBCCTG CBGGBBGGG
 TBGGCTTGCB GCBGBBCTCC CBGGBGGGTG BCBGCBGCCB GTBGBGCTBC CTCGTCCTC BTGGTBCCGT
 CGGTGTGGTG GCBCCGGCTG TGTGTBBGG CGBGCTGGG CCCGTCTGCT GCTCCTCGT CCGCCTCGTC CTCA
 TGG TA CCGTCGGTG' GGTGCGCTCG GGTGGGCCG TGGTGGGGCG CGCGCGCTCG CGTGGCTCCG GCTCTTCTT
 CCCGGCTCCGT CCGCCCGGGG GCCTTGGTCT CCCTCGTCT TCBTGGTBCC G BCCGGCGGBG CCGCBGGGT
 25 GGBCTGGGBG TGGCTTTCTC CCCGCCGTC TCBCCBCCG CGCTGBGCTC BGCGCTBBG BCTGCTGTTT
 CTGGBGCTCC TTGC CBBGCC BCBBBCBGB GBGBBBBCT CBTGBGCBBB TBBTCCBTTC TGBBBBBBBG
 GGBTCBBBB CCTCCGTTT CCCGTTCCG TGGCGCGCG TCGGGTTCC TCGTGGGTTT CTCCCCCGC
 TTCTCCGGTC TGTTCCTTT GTGGCTTCT TGTCTTTTG GCTGTTCTT TCCTGCTTG CGTCTTTTC
 30 TTCTTTGTG CTCGTTGTG GGTCCGCTG TCCTTTGCC TGTGTGTTT TGCTGCCCCT TCGCTGGCG
 CGCGCTGCGG GTTC CTCGTG GGTTCCTCC CGCGTTCTC CGGTCTGTG CTTTGTGGG CTTCTGTCT
 TTTTGGCTGT TCTTTCTCT CTGCGCTCT TTTCTTTCT TTGTGCTCG TTGTGGGTCC GCTGGTCTT
 TGCCCTGTGT GTTTCTGTG GGBGCTGBTB CTGCBGATT CBGBGGGBG BBCCCTGBTB CTCBCCBGT
 TCBGCTCTGG BGCBBBGBG BBBGBGCBG BGGGGGBGB GBBGBBGBG CBCTTCCCB GBGBGGCTGC
 CTGBGCBBT GCTGTTTTC CTTTCCBGT TTGGGTTTB TBBCTCCBG BBGGCBGBG BGGGCBGBG
 35 CGTTTCTTC TCTCGCTGT TTTCTTTC TGGAGTGGG TGGGGGTGG GGTGGGTGG CTTCTTGT
 CCTGGGGGTG TCTCTGTCT CTGGGCTTTT CTCCCTTTT CTTCTCTGTC TGTTCCTG TGGCTTCTC
 CTGTCTCTGT GTCTTGTCC TGCCCTCTT CCCTCTCTG TCTCTGTCT CTGTGTTCCG CCGCTTCTC
 CTCTCTGAC CTCTTTTTC TCCGCTGGGT GGGGCCCTG CTGTTCTCT CTCCCTGGCT TGGGGTTCT
 TCTGTGTGTC TTCTTCTCT GTTGTCTGGC TTTCTCTTC TTTGTCTTC CTGGGTGCC CTTCTCTCT
 40 TCTTGGGTCC TTGGTGTG GGTGGG GCGTCTGGG GTGCBGGGC CBCTCTGCT CGCTGGGCG
 CTGCTGTGCT TCCGTCTGT GGGGGGCCG GGTGGCTGG CCTGCTTG CCGACGACCC CGGGCCGACC
 CGAGGCTCGG GGGC CTGTGT TCTGGCTGG CTGGGCTGG GCGCTCTGG GGGCTGGGT TCCTGTGCG
 CCTGGGCGCT GGGCTCTGG GGTGCGGGG CGGGGGCGCT GTCTGTGGG GTTGGGGTGC CTGGGGTGC
 CTGTGGCTGC CGGTGCCCC GGTGGGTGG GCGCTCTGC TGCCGGTCTG TGGCTGGGT CCGCGCCCG
 45 TTTCTGGGG TCCGCTGGG GTGCTCCGT TCCTCTGTC GCTGCTGCT TGTCTTCCG GCCGTGGCG
 CGTGGTGGTC CGCCCCCTT GGCCTTCTG TCGGGTCTG GCTGGTTGCC GGTGCCCTT GCGCGGTCT
 TCTCTCTGT GGTCTGGGC CCGGCCGCT TCGGGCTCT CGTGTCTGCT CTGTGCTGT TCCGCCGCT
 CCTCTCTCT CCGCGCCGC CGCTCCCGC CCGCTCTG CCGTGGCCG GCCTCTCTT GGCGCTGTC
 TCGGGCGCG GCCTTGGCG TCCGTTTGG GCTGCTCTG GCGCTTCCG CCTCGGCTT GGGCGCTCT
 50 TTCCGCTGT GCTGTGGCC CTCGTGGCC CCTCTGGCC TCCGTTGTC TGTGTTCCC CGGTGGTGG
 CCGGGCGGT TGGGCGGGC TGGGCGCGG CGGCTCTCC GGGTGGCTG TGTGCTGGG TCCGGGCTG
 CTCTGCTGT TCCC'GGGT CTTCTGCTC TCTCTGGGT GGGTGGTGG TGCCGGGTC TCCGGGCTT
 CCGCGCTG CTGGGCGTTC TGGGTCTT GGGTGTCTG TGGCCCCGCT CGTGTGCCC TCCGTGCCC
 GTGCGCGCC TCGTCCCTC CTGGGTGCG GCGGGGTGG TCCTGGCGT TTGCTCTTC CTGGGCTCT
 55 TGGGGTGBG GGGCBCTCT GCTGCGCTG GCGCTGCTG TGCTGCCGT TGCTGGGGG CCGGGGTGG
 TGGGCCCTG TTGCTGACG ACCCGGGGC GACCCGAGG TCGGGGGGCT GTGTTCTGG GCTGGTGGG
 TTGGGCCCC CTGGGGGCT GGTTCCTG TGGCCTGGG CTGCGGTTG CCGCGGTTG CCGCGGTTG
 GCGGGGGG CGCTGTTCTG GGGCTGGG GTGCTGTGG CTGCGGTTG CCGCGGTTG TGGCGGCTC
 CTGCTGCCG TCGTGGCTG GGTCCCCG CCCGTTCTT GGGGTCCG GGGGTGCTC CGTCTCTC
 60 TGCCGCTGCT GCCTTGTCT TCCGGCGGT GCGGCGTGG GGTCCGCCCC CCCTGGCCT CTGCTGGGG
 TCTGGCTGGT TGCCGTGCT CTTGGCGCG GTCTTCTTC TGGTGGCTT GGGCCCGGC GGTCTGGGC
 GTCTCGTGT CGCTTGTG CTGTTCCGC CGTCTCTTC TCTCCGCC CCGCGCTCC CCGCCGCTC

	GTGCGCCTGG	CCCCGCCCTC	TCCTGGCCGC	TGTCTCGGGC	GGCGGCCTTG	GCCTCCGTT	TGGGGCTGCC
	TCTGGCGCTT	CCGGCCCTCG	GCCTGGGCGC	TCTCTTCCGC	CTGTGCTGGT	GGCCCTCGTG	GGCCCTCCT
	GGCCTCCGGT	GTCCIGTGGT	CCCCCGGCTG	GTGGCCGGGC	CGGTTGGGCG	GGCGTGGGCG	CCGGCGGGTC
	CTCCGGGGTG	CCCTTCTCCG	CCGGGGGTCC	CGCGCTCCTG	CTGTTCCCTG	GGCTCTTCTG	CCTCTCTCCT
5	GGGTGGGTGC	TGGCTGCCGG	GGTCTCCGGG	CTTGCCCCGC	GCTGCTGGGC	GTCTGCGGT	CTTGGGGTTG
	TCTGTGGCCC	CGCTCTGTGC	GCCCTCCGTC	GCCCGTCGCC	GGCCTCGTCC	CCTCCTGGGT	GC CGGCGGG
	CTGGCTCTGG	CGTTTGTCTC	CTTCTCTG	CTGCCCCBGT	TTTTGTCTCT	CBCBTGCCGT	GGGGBGGBCB
	BTGGTGCCTT	CCCCGGGGTT	TCTGCTGCTT	GCTGCTCTTT	TCCCGTCTCC	CTTCTTTCCC	GTCTCTCTTT
	TGCCTCTTTG	GGTTCTCTGT	GTTTCTGGCC	TGCTTGGTGG	CGGCTTGTGC	GTCTCTCTCT	TCTCTCTTTG
10	GGTCTCCGCT	TCTCTCTCTG	CCTTTTCTCT	TCTCTGTCTG	GCCGTTCTCT	CTCCGGCGTC	CTCCTGCCCT
	GTGCTGTTTG	CCTCTGGGTG	TGCGGGTCCC	GGTGTCTCCC	CGCGGGGCCG	GCTGGTTGCC	TGGGCTGTCT
	TGGTGGGGTG	TGGCGCCGCT	GGGTTGGGGG	TGTGGTGGGC	TCTTCTGTGG	CCTGTGGGGC	TGTTGGTGTCT
	TCTGTGGGCG	TGTGCTGGGT	CTTGGGGCTT	CCTCCCTTGT	GCTGGGTGCG	GCCTCCCCGC	CCCCCTCTCT
	GGCCGGTGGC	CTGGCTCTTT	GTGGGCGCTT	CTGGCTCTTG	CCCTGTCCTT	CTTCGCTCTG	TGGCTGCTGG
15	GCCGCGCGCC	CCAAGATGGC	GGACCTGGAG	GCGGTGCTGG	CCGACGTGAG	CTACCTGATG	GCCATGGAGA
	AGAGCAAGGC	CACC CCGGGC	GC CGCGCCCA	GCAAGAAGAT	ACTGCTGCCC	GAGCCACAGA	TCCGACGTGT
	CATGCAGAAG	TACCTGGAGG	ACCGGGGCGA	GGTGACCTTT	GAGAAGATCT	TATCCCAGAA	GCTGGGGTAC
	CTGCTCTTCC	GAGACTTCTG	CCTGAACCAC	CTGGAGGAGG	CCAGGCCCTT	GGTGGAATTC	TATGAGGAGA
20	TCAAGAAGTA	CGAGAAGCTG	GAGACGGAGG	AGGAGCGTGT	GGCCCGCAGC	CGGGAGATCT	TCGACTCATA
	CATCATGAAG	GAGCTGCTGG	CCTGCTCGCA	TCCCTTCTCG	AAGAGTGCCA	CTGAGCATGT	CCAAGGCCAC
	CTGGGGAAGA	AGCAGGTGCC	TCCGGATCTC	TCCAGCCAT	ACATCGAAGA	GATTTGTCAA	AACCTCCGAG
	GGGACGTGTT	CCAGAAATTC	ATTGAGAGCG	ATAAGTTCAC	ACGGTTTTGC	CAGTGGAAGA	ATGTGGAGCT
	CAACATCCAC	CTGACCATGA	ATGACTTCAG	CGTGCTACGC	ATCAATGGGC	CGCGGGGCTT	TGGCGAGGTC
	TATGGGTGCC	GGAAAGCTGA	CACAGGCAAG	ATGTACGCCA	TGAAGTGCTT	GGACAAAAAG	CGCATCAAGA
25	TGAAGCAGGG	GGACACCCCTG	GCCCTGAACG	AGCGCATCAT	GCTCTCGCTC	GTCAGACTGT	GGGACTGCCC
	ATTCAATTGTC	TGCACTGTCT	ACGCGTTCCA	CACGCCAGAC	AAGCTCAGCT	TCATCTTGGA	CCTCATGAAC
	GGTGGGGACC	TGCACTACCA	CCTCTCCCAG	CACGGGGTCT	TCTCAGAGGC	TGACATGCGC	TTCTATGCGG
	CCGAGATCAT	CCTGCTGCCTG	GAGCACATGC	ACAACCGCTT	CGTGGTCTAC	CGGGACCTGA	AGCCAGCCAA
	CATCCTTCTG	GACGAGCATG	GCCACGTGCG	GATCTCGGAC	CTGGGCTCTG	CCTGTGACTT	CTCCAAGAAG
30	AAGCCCCATG	CCAGCGTGGG	CACCCACGGG	TACATGGCTC	CGGAGGTCTT	GCAGAAAGGC	GTGGCCTACG
	ACAGCATGTC	CGACTGGTTC	TCTCTGGGGT	GCATGCTCTT	CAAGTTGTCT	CGGGGGCACA	GGCCCTTCCG
	GCAGCACAAG	ACCAAAGACA	AGCATGAGAT	CGACCGCATG	ACGCTGACGA	TGGCCGTGGA	GCTGCCCGAC
	TCCTTCTCCC	CTGAACCTACG	CTCCCTGCTG	GAGGGGTTGC	TGCAGAGGGA	TGTCAACCGG	AGATTGGGCT
	GCCTGGGCCG	AGGGGCTCAG	GAGGTGAAAG	AGAGCCCTTT	TTTCCGCTCC	CTGGACTGGC	AGATGGTCTT
35	CTTGCGAAG	TACCTTCCCC	CGCTGATCCC	CCCACGAGGG	GAGGTGAACG	CGGCCGACGC	CTTCGACATT
	GGCTCCTTCG	ATGAGGAGGA	CACAAAAGGA	ATCAAGTTAC	TGGACAGTGA	TCAGGAGCTC	TACCGCAACT
	TCCCCCTCAC	CATCTCGGAG	CGGTGGCAGC	AGGAGGTGGC	AGAGACTGTC	TTCGACACCA	TCAACGCTGA
	GACAGACCGG	CTGGAGGCTC	GCAAGAAAGC	CAGCTGGGCG	CAGATGGGCG	ATGAGGAAGA	CTACGCCCTG
40	GGCAAGGACT	GCATCATGCA	TGGCTACATG	TCCAAGATGG	GCAACCCCTT	CCTGACCCAG	TGGCAGCGGC
	GGTACTTCTA	CCTGTCCCC	AACCGCCTCG	AGTGGCGGGG	CGAGGGCGAG	GCCCCGCAGA	GCCTGCTGAC
	CATGGAGGAG	ATCCAGTCGG	TGGAGGAGAC	GCAGATCAAG	GAGCGCAAGT	GCCTGCTCCT	CAAGATCCGC
	GGTGGGAAAC	AGTTTCATTT	GCAGTGCAT	AGCGACCCTG	AGCTGGTGCA	GTGGAAGAAG	GAGCTGCGCG
	ACGCCTACCG	CGAGCTCCAG	CAGCTGGTGC	AGCGGGTGCC	CAAGATGAAG	AACAAGCCGC	GCTCGCCCGT
	GGTGGAGCTG	AGCAAGGTGC	CGCTGGTCCA	GCGCGGCAGT	GCCAACGGCC	TCTGACCCGC	CCACCCGCCT
45	CCAGGAAGCT	ACCTGAGGA	GGTGAGTCTT	AGCGGATGAG	TAGGAGTTGT	CCACGGAGGA	AGGTACACAG
	AAGGGTCTTC	AGGCCTAGGA	AACAGCAGAG	GCACAGAAGT	GAGAATGGGT	GGGTGAGTTG	GTGGGAAAC
	TCCAGGTGCA	GAGGATGGTA	GCGAAACAAA	CTGGAGCATT	AAGGTCCAAG	TCTCTCAAGA	TCTTGATCTG
	CAGATTAAGG	AGTTTGTTCA	CCTAATCTGC	TTTGGGCAGA	GTGTGGTGAG	TCCTAGAGAC	CCCTCTAGGT
50	CTCTCCTCTC	AGTAGCCCCA	GAAGGCCTGG	AGAGCTGCTT	CTGGGTGCCA	AGCAGGCAGT	GACTCCATCA
	GATCTAGATT	TGGGAAAAGC	ATCCCTGTGC	AGGGCCTGCA	TCAGGGCAGT	GGCTGGCCAT	GAGGACCCTG
	AGAAGTAGAC	AGATTACACG	AGATTCTCAG	GAGGCCAGAC	AGGAGACTAT	GGTGACAAAT	TAGATTAGAG
	AAGGGGAGAG	AATCAAGGAG	CAGTTGGGGT	AAAAGAAAAC	TGAGGCTGAC	ATGGGTATAT	GGGTGGCGAG

[illegible]

Variable	Mean	SD	Min	Max
Age	34.5	10.2	18	65
Gender	50.0	50.0	0	100
Marital status	65.0	48.0	0	100
Education	12.5	2.5	8	16
Income	3500	1500	0	10000
Health status	75.0	25.0	0	100
Stress level	60.0	20.0	0	100
Life satisfaction	70.0	30.0	0	100
Work satisfaction	65.0	25.0	0	100
Family satisfaction	70.0	25.0	0	100
Community satisfaction	60.0	20.0	0	100
Overall satisfaction	65.0	25.0	0	100
Depression	20.0	15.0	0	50
Anxiety	15.0	10.0	0	40
Anger	10.0	8.0	0	30
Sadness	12.0	9.0	0	35
Fear	8.0	6.0	0	25
Disgust	5.0	4.0	0	20
Surprise	3.0	2.0	0	10
Confusion	4.0	3.0	0	12
Shame	2.0	1.5	0	8
Guilt	3.0	2.0	0	10
Envy	1.0	1.0	0	5
Pride	2.0	1.5	0	8
Love	1.0	1.0	0	5
Respect	1.0	1.0	0	5
Kindness	1.0	1.0	0	5
Generosity	1.0	1.0	0	5
Patience	1.0	1.0	0	5
Forgiveness	1.0	1.0	0	5
Humility	1.0	1.0	0	5
Modesty	1.0	1.0	0	5
Self-control	1.0	1.0	0	5
Perseverance	1.0	1.0	0	5
Endurance	1.0	1.0	0	5
Stamina	1.0	1.0	0	5
Strength	1.0	1.0	0	5
Power	1.0	1.0	0	5
Influence	1.0	1.0	0	5
Authority	1.0	1.0	0	5
Leadership	1.0	1.0	0	5
Management	1.0	1.0	0	5
Organization	1.0	1.0	0	5
Planning	1.0	1.0	0	5
Decision-making	1.0	1.0	0	5
Problem-solving	1.0	1.0	0	5
Communication	1.0	1.0	0	5
Interpersonal skills	1.0	1.0	0	5
Teamwork	1.0	1.0	0	5
Collaboration	1.0	1.0	0	5
Cooperation	1.0	1.0	0	5
Partnership	1.0	1.0	0	5
Relationship	1.0	1.0	0	5
Connection	1.0	1.0	0	5
Network	1.0	1.0	0	5
Community	1.0	1.0	0	5
Society	1.0	1.0	0	5
World	1.0	1.0	0	5
Universe	1.0	1.0	0	5
Nature	1.0	1.0	0	5
Environment	1.0	1.0	0	5
Climate	1.0	1.0	0	5
Weather	1.0	1.0	0	5
Season	1.0	1.0	0	5
Time	1.0	1.0	0	5
Space	1.0	1.0	0	5
Distance	1.0	1.0	0	5
Direction	1.0	1.0	0	5
Location	1.0	1.0	0	5
Place	1.0	1.0	0	5
Area	1.0	1.0	0	5
Region	1.0	1.0	0	5
Zone	1.0	1.0	0	5
Field	1.0	1.0	0	5
Domain	1.0	1.0	0	5
Range	1.0	1.0	0	5
Scope	1.0	1.0	0	5
Extent	1.0	1.0	0	5
Depth	1.0	1.0	0	5
Breadth	1.0	1.0	0	5
Height	1.0	1.0	0	5
Width	1.0	1.0	0	5
Length	1.0	1.0	0	5
Volume	1.0	1.0	0	5
Area	1.0	1.0	0	5
Perimeter	1.0			



5	CTATTCCATT	TCCCTACCCCT	CAGCCAGGCA	GGTGGAGCAA	AAACTTAAGT	CTTGGTGGAT	CTGAATCTTG
	ATGCTGTGGA	GCTC TCTTAC	TAGCCCCAGA	CTACCTGCCT	CTCAATTTCT	AATTATATCA	GTGAAAGCAA
	ACAGCTTTGA	TTTGTTTAAG	CCTCTGATTT	TTTGGTCTAA	CTGATGTAAG	ACCACAAGGA	CAAGAGTTCT
	CCAGCTCCGG	ATTCTCTTCT	GTTCTGTTTAA	TGGTGAAAATG	CCCGAGAGAA	GAGTTGCCAA	CTTTGGCAAA
	TAAAAAATAC	AGGA TTCCAG	TAAAAATTCAA	ATTTAGATAA	ACAACAATTT	TTTAGTATTA	GTGTGTCCCA
10	TTCAATATTT	GGACATACTT	AACTAAAAAA	TGATTTGTTG	TTCATCTGAA	ATACAAATTT	AACTGGGCAT
	TCTGAATATT	CTCTGJCAAC	CCCCGAGAGA	GTGAAGAAAG	TGGTACAAGG	ACACTTAAGA	AGACCAGATT
	TGAAAAGACA	TTACGGATGT	GTTTAAATGT	CTTATTCTAG	AGAGAGTTAG	AGCTGTAGGT	AGAACTTGGG
	AAATTAAGTT	AAAAGCAGAC	ACAGAGACCT	GGCCAATATA	TACTAAAGGAG	TGGATCACTC	TGGTCAACAAG
	CCCAACCTGA	GACC AAGGGC	ATAGTGAGAT	GATTTGGGAA	AGGCACTTAT	ACACTACTCA	TCCCCGTCTT
15	TGAACTAAAT	GCCITATAAA	TCTCCAAGAG	AAATGACAGT	CCACCATGTG	GACTGCTTTC	TGTAAGTCC
	GGGAAAATAA	AAGCTATGTG	CTTGAAACCC	ACTTCTGATA	TTATAAGGTG	TGTGATCTTT	GTCTATGTTAA
	TGGGTCTGAG	TATCAATTCT	ACAATTGTAA	AGTGACAGTA	ATGGTGTGTC	CCCAGGTTGT	TGTGGAAAGC
	TTGATTCTTA	ATGC AAGAGT	AGGAAACCCC	AGCCTCTCTG	GAGCAAACAC	CCTTCTACAT	CTTTACTTCC
	CCTGCACATT	GGCAGGACTC	TATTCCTCTA	TTTCTCTCTA	GTGCTAGAGC	AGAAAGGGAC	CTTGATTTGA
20	TATCAGGAAA	ATCIATTTCT	GAACCATAAG	CTATGATAGC	TGATTTAAAA	AATTGACTAT	CATGACATGA
	TAATGATCAT	AATGGTAATA	CATATTGATA	GGGTTGCCGT	GAAAGTAATA	ATATATCTAA	GAGTTGTGAC
	AATATATGAT	ACGCTAGAC	TCTCAGAAAA	TGCTAATTCC	AATCCCAATT	GCTCTTTGCA	TAAAGTTCTG
	TCCTAGGGTC	TGTCTTTTTC	CCACATCTAC	CCTCCTTGGA	TCTCTCTTCT	GTCTTTTTCA	TGTGGTTTCA
	AGGAGGAGAG	AGA TCCAGGT	CAATGTTTTT	CAAATTACAA	GGAATTATCA	TTTAAATGGG	GAAGAAGCTC
25	AAGTTTTGAC	GTGT AGTGGA	ATTGGAGTGG	AGTGGAGTGG	AATGGAAACT	AACAGGAAGA	CACTGCACAT
	GGTTAAGATA	AAGA TTGTTT	CCTGAAACCT	TTAATTTGTG	CTTACATACT	CACACATGAC	TATGTGCATG
	CACTGGGACT	CTGCAATATG	CATTTCTGAC	TATGGAACAT	AGCCATAAAA	GTCTTTGAC	TGAACGTTCA
	GTGGGCCTTT	CACAAGCTGC	CCTAATTTGGG	AAAGAAAAAC	ATGGTCCCTC	CATTTCTGCG	CCCCAACCTC
	AGAAAAAGTCA	CCA TAGTTGA	GGGTACATCT	GAGAAGCCAG	CACTTGGGAG	TTCAGGGCTC	AAGTTCCTTT
30	CTAGAAAAAC	ACTGGGTGAT	TCTAGGGGAA	CTTCCGATCA	GAAACAGCCA	ATTCAGAGTG	AGAGAAGAAA
	ACGTGACCAT	GCAG TCCCTG	TGGTTACCAG	CCTTGCCCTT	CTCTTGCCCT	CTGGGAGTTA	TAAAACCCCA
	GACTGGAAAG	GAA ACCAGC	ATTTGCTCAG	GCAGCCTCTC	TGGGAAGATG	CTGCTTCTTC	CTCTCCCCCT
	GCTGCTCTTT	CTCT GTGCT	CCAGAGCTGA	AGCTGGTGAG	TATCAGGGTT	CTTCCCTCTG	AAATCTGCAG
	TATCAGTCTC	TGAAACAAAG	ATGTTTAGTC	TGAAATAGCT	GACTCCTAAA	CCGGGTTCCA	AGATCTCTCT
35	TCAAGAGTCC	CACAGAGGAA	ATTTCCAGT	GGGATGTGTG	CCACCCACC	CAGCCCCCA	CCCATCTGCC
	TTCTCTACAG	CCTA JGACAC	CCCCAGGAAC	AAGGAATTTT	ACCTCAATTG	TAGAAAAAGCC	CAGAGCAAGT
	GGAAGGAAAA	GGG GTATCCC	CAGGAAAAACA	GACATGTCCT	CTTAATCTTC	TGAGCATCAG	GGCTACCCAT
	TACTTTGTGA	CTTT TCACT	CTGTGACCAT	GCTCAAGAGC	TATGGAGAAA	TCTAAAACAG	GAACCTGGAC
	AGTGGGTCTT	ACAC AGAGAC	AGAGGAGAGT	GGGCCAGGGC	AAGGTGGGAG	TGGGAGAAGT	CTGAGATGAA
40	AACATCAGAA	TGGAGCAGAG	GCAAGAATGA	GATTTACCTT	GGGAGGTTAT	GGGTGGGGAA	AGATACGAAA
	TACAGGAGAC	AGGAGAGGGA	AGATGGGCGG	AACACAGGGT	GAGAATGAGA	TTCCAGGGAA	GCCTAGCTCA
	GCTTTAACCC	AATT TGTCCA	TTCAATTGGAG	AGAGTATCTA	TGGCCGTGTT	CAAAACCTGG	GGTGCTCTGT
	TCCAGGGGAG	ATAT TCGGGG	GCACAGAAATG	AGAACCCACAT	TCCCCGCCCT	CAATGGCCTA	CCTGGAAATT
	GTAACCTTCCA	ACGG TCCCTC	AAAATTTTGT	GGTGGTTTCC	TTATAAGACG	GAAC TTTGTG	CTGACGGCTG
45	CTCATTGTGC	AGGA AGGTGA	GACAACAGGG	TCTATTTATC	TCCAAATGGG	AGATGAACAA	CCAGAGTAGC
	ATCCAGGAAT	ACACCTGCAC	TGGGGACTGA	AGAGGGGGTC	CTGGGTCTTG	TCAACTTTCA	GGAGAGGGAA
	GACTTTGGGC	TGAAAGACTT	TAGTCTGTGT	TGGAATAGTT	CCTTGAGCCT	CAGTCACTGA	GCTAAGCTCC
	CTTCGGAGGA	AAAC GAGGTC	CTGTCCGAAG	GTCCCTCTTG	TTGCAGTAGC	ACCCCTCACC	CCTACCCAAC
	TCAAGACACA	CGGCTCACTT	TTCAGGGCCC	CACCCAGCTT	CAGGGCCACT	TCCTCTATGG	CCTTTTCAAG
50	AACACTGGCT	CTAGTTCTCA	GGGTCTGGAA	CCCATCATTT	TATGGGAGCA	GAGAACAAGT	CTACATAAGA
	CCCCCACTTT	CCCG TTTTAA	CTGATATCTC	CTGCTTCAGG	GGCTGGCCCT	CATGCAGGGT	TCCCTGAATT
	AGGAAGTGTG	AACC TGTGCC	CCTGAGTCCT	CCCTGGCCTG	TTCAGTCCCC	AGCAATTCCA	GGGGTCGTAG
	AAATTGTGTC	TGTT TCTCTGA	GAAAGCTCTT	TCATGAGTTA	AGCCTGAGCC	CTCAAATGCC	ACAAGTGGCC
	CATGAAAAGG	GAGA TGGGTA	GAGTCCGGCN	ACCCAGTGAC	AGAGTTTAGT	CCTCTTTTCT	CAGAATGAGC
55	TCACCTCAGA	AGAA ACCCCA	AGCCATCACT	GTGCGCTCCT	TTTCTTCTCT	TCTTCTCTAC	AGCAGGTCTA
	TAACAGTCAC	CCTT JGAGCC	CATAACATCA	CAGAGGAAGA	AGACACATGG	CAGAAGCTTG	AGGTTATAAA
	GCAATTCCGT	CATC JAAATC	ATAACACTTC	TACTCTTTCAC	CACGATATCA	TGTTACTAAA	GGTGACAACA
	CCTCTCTTCT	CCCT TCTCAC	TTCCCCATTCT	CCTAAGCTTC	TCCTTCAGGT	CCTCATTTGCC	CTGAATTTTTT
	CTTAGGACTT	GGCT ATAACA	TGAAGCTACT				

[illegible]

ATGTGGATGA CGGTCCCAAG AAAGGAAGAA GGGGCATCAG AACTAGATGT ATAAGTGAGG AGCTCCACCT
 CCTGGGTCTG ACTT1AGGTC TCACTGTGAC TCCAAGCTGG CTGGCAGACA GGAGTGGAGG ACTTCCCGGG
 CTCACCTTCT TCTCTCTCTC CTCCCCTAC AGGGAGACTC TGGGGGCCCT CTCTGTGTG CTGGGTGGC
 CCAGGGCATC GTA1CCTATG GACGGTCGGA TGCAAAGCCC CCTGCTGTCT TCACCCGAAT CTCCCATTAC
 5 CGGCCCTGGA TCAACAGAT CCTGCAGGCA AATTAATCCT GGATCCTGAG CCAGCCTGAA GGGAAAGCTGG
 AACTGGACCT TAGCAGCAAA GTGTGTGCAA CTCATTCTGG TTCTACCCTT GGTTCCTCA GCCACAACCC
 TAAGCCTCCA AGACGTCTCC TACAGGTAAC AGAACTTCA ATAAACTTCA GTGAAGACAC AGCTTCTAGT
 CGTGAGTGTG TGCTCTCTC TGCTGCTCTC TTCTCCTGCA CATGTGACCT GATTCCCAGC CCAAGCACCA AGGA
 CACCGTCTCT GTACGCCAAC AAATATCCAT TGAGCGACAC CTGTGTCCCA GGTGCTGCTC TGGGCCTGG
 10 GAGAAGTGCA TCAGTGGGCT TGGTAGTAGA GGGTAGGGAT GGAGTGAAGG GTAGGCAGGA AGAATGTCCC
 CAGGCTGGTA GGACGTGGGG TGGGGGGTTT CAGTCTCAA ACTCCCATGA AAACCAGAGA GAAGTTTCAG
 AACTCCACCC AAGAGGCTGG GTTCTAGGG CCCTAGAGTG CCCTCCCCA CCTAGAAATG TCAAAGTGAG
 GTCCCTTCCC AGCTACGTCC AGAGAAGAGC TGGAGGAAGT GAGAGGTCCG CTGGGGGTCC TCAAAGTGAG
 AGGGGAGCAG AGGATCCTCC CGTGCAGGCT GTGGATGTCA CTCACTTCCC AGCTGGTGAA GCCTCGCTGC
 15 AGAGATGCAT CTGCTCCAG CCCTGGCAGG GGTCTGGCC ACACTCGTCC TCGCCCAGCC CTGTGAGGGC
 ACTGACCAG GTAAATAGTCC CCTAGACAGG CAAGGAGGAG GGAGGGGAAA TGGAAAGGGGA AGCACTTGGG
 TCTTGAGGGG GGTCTGTGG CTGTGTGAAC CCTGAGTCCC CATCTCTTG AACAGCCTCC CTGGGGCAG
 TGGAGACCTG GGTCTGCGA GACTGCATAG CAGAGGCCAA GTTGCTGGTG GATGCTGCCT ACAATTGGAC
 CCAGAAGAGG TGGATTGGG TCTGGGGCT GCATGGGCT GGGAGGATCA GT TAATACCTTG TGGGTCAGG
 20 GAGCCCATGT CCGGTGCTGA TGTATTTC CCACAGGTC CGGGCTGTCT CCAACCAATG TGTGCTTTC
 CCAATGAGA GACTGACCTC CGACCGTGGC CGAGCCCTCA TGTTTATGCA GTGGGGCCAG TTCATTGACC
 ATGACCTGGA CTTC1CCCCG GAGTCCCCGG CCAGAGTGGC CTTCAGTCA GGCCTTGACT GTGAGAGGAC
 CTGCGCCCAG CTGCCCCCT GCTTTCCTAT CAAGGTACCT ACCCTCAGCC AATCTCCCAT GCCCTTGTGT
 GGCCTCCCC AAAGGCAAGG TGCTGGGGGT GGGGATCTGG AAGACTGGAG CACCATCCTT AAGGAGCTGC
 25 CTGTGGAGCT AGGGTATGAG ACAGAGACAC AAG CACTGTCTCC TCTTCCATCT CAGATCCAC CCAATGACCC
 CCGCATCAAG AACCAGCGTG ACTGCATCCC TTTCTTCCG TCGGCACCTT CATGCCCCA AAACAAGAAC
 AGAGTCCGCA ACCAGATCAA CGCGCTCACC TCCTTTGTGG ACGCCAGCAT GGTGTATGGC AGTGAGGTCT
 CCTCTCGCT GCGG1TCCG AACCAGGACCA ACTACCTGGG GCTGCTGGCC ATCAACCAGC GCTTCAAGA
 CAACGGCCGG GCC1TGCTGC CCTTCGACAA CCTGCACGAT GACCCCTGTC TCCTACCAA CCGCTCGGGC
 30 CGCATCCCT GCTTCTGGC AGGTGAGACA GGGAGGAAGG TGGTGTCTTC CCAGGAAACA GCCATCCCTG
 GGGTCCAAC TGGGAAGCAA TGGTGGGATG TGGTGAAGGT ACATGGTTTG GGACCTCAGT ATTAGGCACA
 CCATAAGCAT GGATCTGTGC AC TGAAGAGATG GAGGTCCAGT GAGGGCCAGG AGTTTGGGCC ACCCGTCTC
 TCCCATCCCC AGCC1TGGGT CTACCCTGGT AGAAAGACAT TTCTCTGGGA AAGGCTGCAG TAAATCTGAG
 CTTGGGGTTT TCAA1GTGAC ACCCGATCAA CGGAAACCC CAAACTGGCA GCCATGCACA CCTTCTTAT
 35 GCGAGAGCAC AACCGTGG CCACCGCTG AATCCCCGTG GGAATGGAGA CCAACTGTAC
 AATGAGGCTC GGAAC ATCAT GGGGGCCATG GTCCAGGTAA GGAGCTCTGC ATCCAGCAT CCCC CTTTGTATCT
 CCACCCACCA ATAGTAAATT AATGTTGTCA CATTTGACGT GATGACAATA AAGAATATGT CTGAGCCACC
 CTTTGAAGAAG GCAA1GGGTAT GGGTGAGTAG CCTCTGGGGA ATGTTCTCTC TGTCTTCCCT TCCAGATCAT
 40 CACCTACCGA GACTTCTGTC CCTGTTCT GGGCAAGGCC CGGGCCAGGA GAACCTGGG GCACTACAGG
 GGGTACTGCT CCAATGTGGA CCCACGGGTG GCCAATGTCT TCACCCTGGC CTTCGCTT GGCCACACAA
 TGCTCCAGCC CTTCATGTTT CGCTTGGACA GTCAGTACCG GGCCTCCGCA CCAACTCGC ATGTCCCACT
 TAGTCTGCC TTCT1TGCCA GCTGGCGAT CGTGTATGAA GGTGACCAGG TTTTCCAGG GGCNAATGGG
 GGTGAGGGTG GGGAGATGC CCTCCCCTAG GTGG TCCAGTGTCT CATGTCTCT CAGAAGCTCT GTTCTGTGAC
 45 AAACGTTACT AACATACCCG ACTGGCTTGT CCAGCTCTGG GCTAGCTTGG CATCATGTGA TAACCCAAAGT
 AGCTTCCCAG AGGCTGGTCC AATCTGTGCT GCTCACATTC CTGCCCACA GGGGGCATCG ACCCATCCT
 CCGGGGCTC ATGGCCACCC CTGCCAAGCT GAACCGTCAG GATGCCATGT TAGTGGATGA GCTCCGGGAC
 CGGCTGTTT GGCA1GTGAG GAGGATTGGG CTGGACCTGG CAGCTCTCAA CATGCAACGA AGCCGGGACC
 ACGGCTTCC AGGT1AGGGG GCTGTCCACC TCTTCTCCA GCTTGTCTCG GGCCAGGCTG CTCAAGGGGT
 TCTGGGAAGA CCT1GTACC CGACTGCCTG GTAGGTTCTG GTGGCAGAAA CGAGGTGTTT TCACCAAAAG
 50 ACAGCGAAG GCCCTGAGCA GAATTTCTT GTCTCGAATT ATATGTGACA ATACCGTAT CACCACGGTT
 TCAAGGGACA TCTT1AGAGC CAACATCTAC CCTCGGGCT TTGTGAACTG CAGCCGTATC CCCAGGTTGA
 ACCTATCAGC CTGG1GAGGG ACATGAGGCT TCTGCAGGTA AGGGGAGGCC ACCTCCAGCA CCTTGGGCTG
 GTTAAGCCTC ACAT1CTTCC CTGGATGGAT GGCTGAGTCC TCTTAGGTCT CTAAGCAGAG AAAACAGAAC
 TTGTCACTAG GTAC1CTTTC CAAGTGGCTT CCCAATGTGC TAGTTTCTGG GCTGACAGTC AATTCCAGGC
 55 CCTAGGACTT TGGGGGAAA TTAGGAGCAT CCAACTA GAATTCCTG GCCAGGACCC CTGCCAGGGC
 ACTGACCCAG CCT11CCTGG GGCAGTGGAG ACCTCGGTCC TGCAGACTG CATAGCAGAG GCCAAGTTGC
 TGGTGGATGC TGCC1ACAAT TGGACCCAGA AGAGCATCAA GCAGCGGCTT CGCAGCGGTT CAGCCAGCCC
 CATGGAACCTC CTGTCTTACT TCAAACAACC GGTAGCAGCC ACCAGGACAG TTGTTCCGGC CGCAGATTAT
 ATGCATGTGG CTTT1GGGGCT GCTTGAAGAG AAGTTACAAC CCCAGCGGTC CGGACCTTTC ATTGTCACTG
 60 ATGTGCTAAC AGAACCACAG CTGCGGCTGC TGTCACAGG CAGTGGCTGT GCTCTCCGGG ACCAGGCCGA
 GCGCTGCAGC GACAAGTACC GCACCATCAC TGGACGGTGC AACAACAAGA GGAGACCCTT GCTAGGGGCC
 TCCAACCAGG CTCT1GCTCG CTGGCTGCCC GCCGAGTATG AGGATGGGCT GTCGCTCCCC TTCGGCTGGA

CCCCCAGCAG GAGGCGCAAT GGCTTCCTTC TCCCTCTTGT CCGGGCTGTC TCCAACCAGA TTGTGCGCTT
 CCCCATGAG AGACTGACCT CCGACCGTGG CCGAGCCCTC ATGTTTCATGC AGTGGGGCCA GTTCATTGAC
 CATGACCTGG ACTTCTCCCG GGAGTCCCGG CCGAGAGTGG CCTTCACTGC AGGCGTTGAC TGTGAGAGGA
 CCTGCGCCCA GCTGCCCCC TGCTTTCCCA TCAAGATCCC ACCCAATGAC CCCCAGATCA AGAACCAGCG
 5 TGACTGCATC CCTTICTTCC GCTCGGCACC CTCATGCCCC CAAAAACAAGA ACAGAGTCCG CAACCAGATC
 AACGCGCTCA CCTCTTTTGT GGACGCCAGC ATGGTGTATG GCAGTGAGGT CTCCCTCTCG CTGCGGCTCC
 GCAACCGGAC CAACTACCTG GGGCTGCTGG CCATCAACCA GCGCTTTCAA GACAACGGCC GGGCCCTGCT
 GCCCTTCGAC AACCTGCACG ATGACCCCTG TCTCCTCACC AACCGCTCGG CGCGCATCCC CTGCTTCCTG
 GCAGGTGACA CCCCATCAAC GGAAACCCCC AAAGTGGCAG CCATGCACAC CCTCTTTATG CGAGAGCACA
 10 ACCGGCTGGC CACCGAGCTG AGACGCCTGA ATCCCCGGTG GAATGGAGAC AAAGTGTACA ATGAGGCTCG
 GAAGATCATG GGGGCCATGG TCCAGATCAT CACCTACCGA GACTTTCTGC CCCTGGTTCT GGGCAAGGCC
 CGGGCCAGGA GAACCTTGGG GCACTACAGG GGGTACTGCT CCAATGTGGA CCCACGGGTG CCAATGTCT
 TCACCTGGC CTTCCTGCTT GGCCACACAA TGCTCCAGCC CTTCATGTTC CGCTTGACA GTCAGTACCG
 GGCCTCCGCA CCAACTCGC ATGTCCACT TAGCTCTGCC TTCTTTGCCA GCTGGCGGAT CGTGTATGAA
 15 GGGGGCATCG ACCCATCCT CCGGGGCCTC ATGGCCACCC CTGCCAAGCT GAACCGTCAG GATGCCATGT
 TAGTGATGA GCTCGGGAC CGGCTGTTTC GGCAAGTGAG GAGGATTGGG CTGGACCTGG CAGCTCTCAA
 CATGCAACGA AGCCGGGACC ACGGCCTTCC AGGGTACAAT GCTTGAGGC GCTTCTGTGG GCTCTCCCAG
 CCCCGAATT TGGCACAGCT TAGCCGGGTG CTGAAAAACC AGGACTTGGC AAGGAAGTTC CTGAATTTGT
 ATGGAACACC TGACAACATT GACATCTGGA TTGGGGCCAT CGCTGAGCCT CTTTGGCCG GGGCTCGAGT
 20 GGGGCTCTT CTGGCTTGTG TGTTCGAGAA CCACTTCAGA AGAGCCGAGA CGGAGACAGG TTCTGTGCG
 AGAACGAGGT GTTITACCA AAGACAGCGC AAGGCCCTGA GCAGAATTTT CTGTCTCGA ATTATATGTG
 ACAATACCGG TATCACCAG GTTTCAGGG ACATCTTCAG AGCCAACATC TACCCTCGGG GCTTTGTGAA
 CTGCAGCCGT ATCCCAGGT TGAACCTATC AGCCTGGCGA GGGACATGAG GCTTCTGCAG GAGTCTATCC
 25 CAAGTCTCCA ACTTTTGAG ACAAGGGGAA GGGGAGGACC ATGAGGCTGC CTTGTCTCCC TGGAGCAAGT
 GCAGGCTCGT GACGCTTCTG CTGGCTACAG CTCAGAGCTG GGTCCCCAG CCAGGAGTGA AGGCTGGGGG
 CTCCTATCAG CAATGGACCT TCCGCCTTGG GAGCCTCTTA GGTATTAGGC TATGAATCAG CGCCACGTGC
 AAAGGCTTGG GAGCAAGCC ATGTGGTCTT GCACCCAGG CAAGAAAAGT CAGCTGGAGG GTTTACAGCA
 CTTTCTACTG TTTCCAGCC CTCCCTCCC TCCCTACCA TGAATAAGAG ACCACTCGGT CCTAGCCTCC
 30 AGACACCCCA CAAACTCCT CTGAGCCTGA GGCCAGGCAG CATGCTCTGC TTCTACCAAT AAAGCACTGC
 CGGAATTC CATATGTATG GGAATACTGT ATTTACAGGA TTATAAGGAA TGAAATTATA GGCCGGGCAT
 TGTGGCTAAC CCTTATAATC CTAGCACTTT GAGAGGCTGA AGTGGGCAGA TCACTTGAGC TTCAGAGTTC
 GAGACCAGCA TGGACAACAT GGTGAAACCC AGTCTCTACC AAAAACACAA AAATATTAGC TGGGTGTGGT
 GGTGCATGCC TGTAATCCCA GCTACTCAGG AGGCTGAGGT GGGAGGATCG CTTGAGCCTG GGAGGCAGAA
 GTTGAATGA GCACAGATCG TGCCACTCCG CTCAGTCTT GGTGACAGAA TGAGACTCCA TCTCAAAAAAT
 35 AATAAATAA ATAAATAAAA TAAATGAAAT GAAATTATAA GAAATTACCA CTTTTCATG TAAGAAGTGA
 TCATTTCCAT TATAAGGAA GGAATTTAAT CCTACCTGCC ATTCCACCAA AGCTTACCTA TGCTTAAAGG
 ATGAGGTGTT AGTAAGACCA ACATCTCAGA GGCCTCTCTG TGCCAATAGC CTTCTTCTT TCCCTTCCA
 AAAACCTCAA GTGCTAGTT CAGAGGCCTG TCTGGAATAA TGGCATCATC TAATATCACT GGCCTTCTGG
 AACCTGGGCA TTTTCCAGTG TGTCCATAC TGTCAATATT CCCCAGCTT CCTGGACTCC TGTACAAGC
 40 TGGAAAAGTG AGACGATGGA CAGGGATTAA CCAGAGAGCT CCCTGCTGAG GAAAAAATCT CCCAGATGCT
 GAAAGTGAGG CCAATGTGGCT TGGCCAAATA AAACCTGGCT CCGTGGTGCC TCTGTCTTAG CAGCCACCCT
 GCTGATGAAC TGCCACCTTG GACTTGGGAC CAGAAAAGAG TGGGTGGGT GAAGAGGCAC CACACAGAGT
 GATGTAACAG CAACATCAGG TCACCCACAG GCCCTGGCAG TCACAGTCAT AAATTAGCTA ACTGTACACA
 AGCTGGGGAC ACTCCCTTGG GAAACCAAAA AAAAAAAGAGA AAAAAAGAGA CTTTATGCA AAAACAACCTC
 45 TCTGGATGGC ATGGGGTGAG TATAAATACT TCTTGGCTGC CAGTGTGTTC ATAACCTTGT AGCGAGTCGA
 AAAGTGGGCT TCCC GCCGCA GAGAACTCAG CCTCATTCCT GCTTTAAAAT CTCTCGGCCA CCTTTGATGA
 GGGGACTGGG CAGTCTAGTA CAGTCCGAA GTTCTCAAGG CACAGGTCTC TTCCTGGTTT GACTGTCTT
 ACCCCGGGGA GGCAATGACG CCAGCTGCAA GGTGAGTTGC CATATGTATG GGAATACTGT ATTTAGGCA
 TTATAAGGAA TGAAATTATA GGCCGGGCAT TGTGGCTAAC CCTTGTAAATC CTAGCACTT GAGAGGCTGA
 50 AGTGGGCAGA TCACTTGAGC TTCAGAGTTC GAGACCAGCA TGGACAACAT GGTGAAACCC AGTCTCTACC
 AAAAAACAAA AAAATTAGC TGGGTGTGGT GGTGCATGCC TGTAAGTCCCA GCTACTCAGG AGGCTGAGGT
 GGGAGGATCG CTTGAGCCTG GGAGGCAGAA GTTGCAATGA GCAGAGATCG TGCCACTCCG CTCCAGTCTT
 GGTGACAGAA TGACACTCCA TCTCAAAAAT AAATAAATAA ATAAATAAAA TAAATGAAAT GAAATTATAA
 GAAATTACCA CTTTITCATG TAAGAAGTGA TCATTTCCAT TATAAGGAA GGAATTTAAT CCTACCTGCC
 55 ATTCCACCAA AGCTTACCTA GTGCTAAAGG ATGAGGTGTT AGTAAGACCA ACATCTCAGA GGCCTCTCTG
 TGCCAAATAGC CTTCTTCTT TCCCTTCCA AAAACCTCAA GTGACTAGTT CAGAGGCCTG TCTGGAATAA
 TGGCATCATC TAATATCACT GGCCTTCTGG AACCTGGGCA TTTTCCAGTG TGTCCATAC TGTCAATATT
 CCCCAGCTT CCTGACTCC TGTACAAGC TGGAAAAGTG AGAGGATGGA CAGGGATTA TGGCCAAATA AAACCTGGCT
 CCCTGCTGAG GAAAAAATCT CCCAGATGCT GAAAGTGAGG CCAATGTGGCT TGGCCAAATA AAACCTGGCT
 60 CCGTGGTGCC TCTGTCTTAG CAGCCACCCT GCTGATGAAC TGCCACCTTG GACTTGGGAC CAGAAAAGAGG
 TGGGTGGGT GAAGAGGCAC CACACAGAGT GATGTAACAG CAAGATCAGG TCACCCACAG GCCCTGGCAG
 TCACAGTCAT AAATTAGCTA ACTGTACACA AGCTGGGGAC ACTCCCTTTG GAAACCAAAA AAAAAAATAA



	AAAAAAGAGA	CCTTTATGCA	AAAACAACCTC	TCTGGATGGC	ATGGGGTGAG	TATAAATACT	TCTTGGCTGC
	CAGTGTGTTT	ATAACTTTGT	AGCGAGTCGA	AAACTGAGGC	TCCGGCCGCA	GAGAACTCAG	CCTCATTCCT
	GCTTTAAAAT	CTCTGGGCA	CCTTTGATGA	GGGGACTGGG	CAGTTCTAGA	CAGTCCCGAA	GTTCTCAAGG
	CACAGGTCTC	TTCCIGGTTT	GACTGTCTT	ACCCCGGGGA	GGCAGTGCAG	CCAGCTGCAA	GGTGAGTTGC
5	CTGCTTTAAA	ATCTCTCGGC	CACCTTTGAT	GAGGGGACTG	GGCAGTTCTA	GACAGTCCCG	AAGTTCCTCA
	GGCACAGGTC	TCTTCTGTT	TTGAGCTGTC	TTACCCCGGG	GAGGCAGTGC	AGGCCAGCTG	AAGCCCCACA
	GTGAAGAACA	TCTGAGCTCA	AATCCAGATA	AGTGACATAA	GTGACCTGCT	TTGTAAGACC	ATAGAGATGG
	CCTGTCCTTG	GAAATTTCTG	TTC AAGACCA	AATTCCACCA	GTATGCAATG	AATGGGGAAA	AAGACATGAA
	CAACAATGTG	GAGAAAGCCC	CCTGTGCCAC	CTCCAGTCCA	GTGACACAGG	ATGACCTTCA	GTATCACAAC
10	CTCAGCAAGC	AGCAGAATGA	GTCCCCGCG	CCCCTCGTGG	AGACGGGAAA	GAAGTCTCCA	GAATCTCTGG
	TCAAGCTGGA	TGCAACCCCA	TTGTCTCTCC	CACGGCATGT	GAGGATCAAA	AACTGGGGCA	GCGGGATGAA
	TTTCCAAGAC	ACACITCACC	ATAAGGCCAA	AGGGATTTTA	ACTTGCAGGT	CCAAATCTTG	CCTGGGGTCC
	ATTATGACTC	CCAAAGTTTT	GACCAGAGGA	CCCAGGGACA	AGCCTACCCC	TCCAGATGAG	CTTCTACCTC
	AAGCTATCGA	ATTTCTCAAC	CAATATTACG	GCTCCTTCAA	AGAGGCCAAA	ATAGAGGAAC	ATCTGGCCAG
15	GGTGAAGCG	GTAACAAAGG	AGATAGAAAC	AACAGGAACC	TACCAACTGA	CGGGAGATGA	GCTCATCTTC
	GCCACCAAGC	AGGCTGGCG	CAATGCCCCA	CGTGCTAGTG	GAGGATCCCA	TGTGTTCAAC	CTGCAGGCTC
	TCGATGCCCG	CAGCTGTTCC	ACTGCCCGGG	AAATGTTTGA	ACACATCTGC	AGACACGTGC	GTTACTCCAC
	CAACAATGGC	AACATCAGGT	CGGCCATCAC	CGTGTTCCCC	CAGCGGAGTG	ATGGCAAGCA	CGACTTCCGG
	GTGTGGAATG	CTCAGCTCAT	CCGCTATGCT	GGCTACCAGA	TGCCAGATGG	CAGCATCAGA	GGGGACCTTG
20	CCAACGTGGA	ATTCACTCAG	CTGTGCATCG	ACCTGGGCTG	GAAGCCCAAG	TACGGCCGCT	TCGATGTGGT
	CCCCCTGGTC	CTGCAGGCCA	ATGGCCGTGA	CCCTGAGCTC	TTCGAAATCC	CACCTGACCT	TGTGCTTGAG
	GTGGCCATGG	AACATCCCAA	ATACGAGTGG	TTTCGGGAAC	TGGAGCTAAA	GTGGTACGCC	CTGCCTGCAG
	TGGCCAACAT	GCTGCTTGAG	GTGGGCGGCC	TGGAGTTCCC	AGGGTGCCCC	TTCAATGGCT	GGTACATGGG
	CACAGAGATC	GGACTCCGGG	ACTTCTGTGA	CGTCCAGCGC	TACAACTATC	TGGAGGAAGT	GGGCAGGAGA
25	ATGGGCCTGG	AAACGCACAA	GCTGGCCTCG	CTCTGAAAG	ACCAGGCTGT	CGTTGAGATC	AACATTGCTG
	TGATCCATAG	TTTTAGAAG	CAGAATGTGA	CCATCATGGA	CCACCACTCG	GCTGCAGAAT	CCTTCATGAA
	GTACATGCAG	AATGAATACC	GGTCCCGTGG	GGGCTGCCCC	GCAGACTGGA	TTTGCTGGT	CCCTCCCATG
	TCTGGGAGCA	TCACCCCGT	GTTTCACCAG	GAGATGCTGA	ACTACGTCCT	GTCCCTTTC	TACTACTATC
	AGGTAGAGGC	CTGCAAAAAC	CATGTCTGGC	AGGACGAGAA	GCGGAGACCC	AAGAGAAGAG	AGATTCCATT
30	GAAAGTCTTG	GTCAAAGCTG	TGCTCTTTTG	CTGTATGCTG	ATGCGCAAGA	CAATGGCGTC	CCGAGTCAGA
	GTCAACATCC	TCTTTCGAC	AGAGACAGGA	AAATCAGAGG	CGCTGGCCTG	GGACCTGGGG	GCCTTATTCA
	GCTGTGCCTT	CAACCCCAAG	GTTGTCTGCA	TGGATAAGTA	GAGGCTGAGC	TGCCTGGAGG	AGGAACGGCT
	GCTGTTGGTG	GTGACAGTA	CGTTTGCCAA	TGGAGACTGC	CCTGGCAATG	GAGAGAAACT	GAAGAAATCG
	CTCTTCATGC	TGAAAGAGCT	CAACAACAAA	TTCAGGTACG	CTGTGTTTGG	CCTCGGCTCC	AGCATGTACC
35	CTCGGTTCTG	CGCCTTGCT	CATGACATTG	ATCAGAAGCT	GTCCCACTG	GGGGCCTCTC	AGCTACCCCC
	GATGGGAGAA	GGGCATGAGC	TCAGTGGGCA	GGAGGACGCC	TTCCGCAGCT	GGGCCGTGCA	AACCTTCAAG
	GCAGCTGTG	AGACGTTTGA	TGTCCGAGGC	AAACAGCACA	TTCAGATCCC	CAAGCTCTAC	ACCTCCAATG
	TGACCTGGTA	CCCGCACCAC	TACAGGCTCG	TGCAGGACTC	ACAGCCTTGG	GACCTCAGCA	AAGCCCTCAG
	CAGCATGCAT	GCCAAGAAAG	TGTTACCATC	GAGGCTCAAA	TCTCCGACGA	ATCTACAAAG	TCCGACATCC
40	AGCCGTGCCA	CCATCTGGT	GGAACCTCC	TGTGAGGATG	GCCAAGGCCT	GAACCTACCTG	CCGGGGGAGC
	ACCTTGGGGT	TTGCCAGGC	AACCAGCCGG	CCCTGGTCCA	AGGCATCCTG	GAGCGAGTGG	TGGATGGCCC
	CACACCCAC	CAGACAGTGC	GCCTGGAGGA	CCTGGATGAG	AGTGGCAGCT	ACTGGGTGAG	TGACAAGAGG
	CTGCCCCCT	GCTCACTCAG	CCAGGCCCTC	ACCTACTCCC	CGGACATCAC	CACACCCCCA	ACCCAGCTGC
	TGCTCCAAAA	GCTGCCCCAG	GTGGCCACAG	AAGAGCCTGA	GAGACAGAGG	CTGGAGGCC	TGTGCCAGCC
45	CTCAGATAC	AGCAAGTGGA	AGTTACACAA	CAGCCCCACA	TTCTGGAGG	TGCTAGAGGA	GTTCCCGTCC
	CTGCGGGTGT	CTGCTGGCTT	CCTGCTTTCC	CAGCTCCCCA	TTCTGAAGCC	CAGGTTCTAC	TCCATGAGT
	CCTCCCGGGA	TCACACGCC	ACGGAGATCC	ACCTGACTGT	GGCCTGTGGT	ACCTACCACA	CCGGAGATGG
	CCAGGGTCCC	CTGCACACG	GTGTCTGCAG	CACATGGCTC	AACAGCCTGA	AGCCCCAAGA	CCAGTGCCCC
	TGCTTTGTGC	GGAATGCCAG	CGCCTTCCAC	CTCCCCGAGG	ATCCCTCCCA	TCCTTGATC	CTCATCGGGC
50	CTGGCACAGG	CATCGTGCCC	TTCCGCAGTT	TCTGGCAGCA	ACGGTCCAT	GACTCCAGC	ACAAGGGAGT
	GCGGGGAGGC	CGCATGACCT	TGGTGTTTGG	GTGCCGCCGC	CCAGATGAGG	ACCACATCTA	CCAGGAGGAG
	ATGCTGGAGA	TGGCCACAG	GGGGGTGCTG	CATGCGGTGC	ACACAGCCTA	TTCCCGCTG	CCTGGCAAGC
	CCAAGGTCTA	TGTTACAGAA	ATCCTGCGGC	AG			

CCAGTCTGTT CCCCATGGCC ACTTGGGTCT TCCCTGTATG ATTCCTTGAT GGAGATATTT ACATGAATTG
 CATTTTACTT TAATC GAATTCCAC TCTGCTGCCT GCTCCAGCAG ACGGACGCAC AGTAACATGG GCAACTTGAA
 GAGCGTGGCC CAGCAGCTG GGCCACCCTG CGGCCTGGG CTGGGGCTGG GCCTTGGGCT GTGCGGCAAG
 CAGGGCCAG CCACCCCGG CCTTGAGCCC AGCCGGGCC CAGCATCCCT ACTCCCACCA GCGCCAGAAC
 5 ACAGCCCCC GAGCTCCCG CTAACCCAGC CCCCAGAGGG GCCCAAGTTC CCTCGTGTGA AGAACTGGGA
 GGTGGGGAGC ATCACTATG ACACCCTCAG CGCCAGGGC CAGCAGGATG GGCCCTGCAC CCCAAGACGC
 TGCCTGGGCT CCCTGTATT TCCACGGAAA CTACAGGGCC GGCCCTCCCC CGCCCCCGG GCCCCTGAGC
 AGCTGCTGAG TCACGCCCGG GACTTCATCA ACCAGTACTA CAGCTCCATT AAGAGGAGCG GCTCCCAGGC
 CCACGAACAG CGGCTTCAAG AGGTGGAAGC CGAGGTGCA GCCACAGGCA CCTACCAGCT TAGGGAGAGC
 10 GAGCTGGTGT TCGGGGCTAA GCAGGCTGG CGCAACGCTC CCCGCTGCGT GGGCCGGATC CAGTGGGGGA
 AGCTGCAGGT GTTCGATGCC CGGACTGCA GGTCTGCACA GGAAATGTTT ACCTACATCT GCAACCACAT
 CAAGTATGCC ACCAACCGGG GCAACCTTCG CTCGGCCATC ACAGTGTTC CGCAGCGCT CGCTGTGTGC
 GGAGACTTCC GAACTCGAA CAGCCAGCTG GTGCGCTACG CGGGCTACCG GCAGCAGGAC GGTCTGTGTC
 GGGGGGACCC AGCCAACGTG GAGATCACCG AGCTCTGCAT TCAGCACGGC TGGACCCAG GAAACGGTCG
 15 CTTGACGTG CTGCCCCTGC TGCTGCAGGC CCCAGATGAG CCCCAGAAC TCTCTTCTT GCCCCCGAG
 CTGGTCTCTG AGGTGCCCTT GAGCAGCCC ACGCTGGAGT GGTTCGAGC CCTGGGCTG CGCTGTACG
 CCCTCCCGG AGTGTCCAAC ATGCTGCTGG AAATTGGGGG CCTGGAGTTC CCCGAGCCC CCTTCAGTGG
 CTGGTACATG AGCACTGAGA TCGGCACGAG GAACCTGTGT GACCCTCACC GCTACAACAT CCTGGAGGAT
 GTGGCTGTCT GCATGACCT GGATACCCG ACCACCTCGT CCCTGTGGAA AGACAAGGCA GCAGTGGAAA
 20 TCAACGTGGC CGTGTGCAC AGTTACCAG TAGCCAAAGT CACCATCGTG GACCAACAG CGCCACGGC
 CTCTTTCATG AAGCACTGG AGAATGAGCA GAAGGCCAGG GGGGGCTGCC CTCGAGACTG GGCCTGTGTC
 GTGCCCCCA TCTCGGCGAG CCTCACTCCT GTTTTCCATC AGGAGATGGT CAACTATTTC CTGTCCCCG
 CCTTCCGTA CCAGTCAGAC CCCTGGAAGG GGAGTGCCG CAAGGGCACC GGCATACCA GGAAGAAGAC
 CTTTAAAGAA GTGGCCAACG CCGTGAAGAT CTCCGCTCG CTCATGGGCA CGGTGATGGC GAAGCGAGTG
 25 AAGGCGACAA TCTGTATGG CTCCGAGACC GGCCGGGCC AGAGCTACGC ACAGCAGCTG GGGAGACTCT
 TCCGGAAGGC TTTTGTATCC CGGGTCTGT GTATGGATGA GTATGACGTG GTGTCCCTCG AACACGAGAC
 GCTGGTGTG GTGGTAACCA GCACATTTGG GAATGGGGAT CCCCCGAGA ATGGAGAGAG CTTTGCAGCT
 GCCCTGATGG AGATGTCCG CCCATACAAC AGTCCCCCTC GGCCGGAACA GCACAAGAGT TATAAGATCC
 GCTTCAACAG CATCTCTGC TCAGACCCAC TGGTGTCTC TTGGCGGCGG AAGAGGAAGG AGTCCAGTAA
 30 CACAGACAGT GCACGGGCCC TGGGCACCCT CAGGTTCTGT GTGTTCCGGC TCGGCTCCCG GGCATACCCC
 CACTTCTGCG CTTTGTCTG TGCCGTGGAC ACACGGCTGG AGGAACTGGG CGGGGAGCGG CTGCTGCAGC
 TGGGCCAGGG CGACGAGCTG TGCGGCCAGG AGGAGGCCCT CCGAGGCTGG GCCCAGGCTG CCTTCCAGGC
 CGCCTGTGAG ACCTTCTGTG TGGGAGAGGA TGCCAAGGCC GCCGCCGAG ACATCTTCAG CCCCACCGG
 AGTGGAAGC GCCGAGGTA CCGGCTGAGC GCCCAGGCCG AGGGCCTGCA GTTGCTGCA GGTCTGATCC
 35 ACCTGCACAG CGCAAGATG TTCCAGGTA CAATCCGCTC AGTGGAAAC CTGCAAAGCA GCAAGTCCAC
 GAGGGCCACC ATCTGGTGC GCTGGACAC CGGAGGCCAG GAGGGGCTGC AGTACCAGC GGGGACCAC
 ATAGGTGTCT GCGCCCAA CCGGCCCGG CTTGTGGAG CGCTGCTGAG CCGCTGGAG GACCCGCGG
 CGCCACTGA GCGGTGGCA GTAGAGCAGC TGGAGAAGGG CAGCCCTGGT GGCCCTCCCC CCGGCTGGGT
 GCGGGACCCC CGCTGCCCC CGTGACGCT GCGCCAGGCT CTCACCTTCT TCCTGGACAT CACCTCCCCA
 40 CCCAGCCCTC AGCTTTCG GCTGCTCAGC ACCTTGCCAG AAGAGCCAG GGAACAGCAG GAGCTGGAGG
 CCCTCAGCA GGATCCCCGA CGTACGAGG AGTGGAAGTG GTTCCGCTGC CCCACGCTGC TGGAGGTGCT
 GGAGCAGTTC CCGTGGTGG CGTGCCTGC CCCACTGCTC CTCACCCAGC TGCTCTGCT CCAGCCCCGG
 TACTACTCAG TCAGCTCGC ACCCAGCAG ACTATGGAG CTGCTCCAG TGGCTAAGCC AGCTCAAGCC
 ACAGGACTCA GGAATGGGCTG GGCCCTGCT ACTATGGAG CTGCTCCAG TGGCTAAGCC AGCTCAAGCC
 45 CGGAGACCCT GTGCTCTGCT TCATCCGGGG GGCTCCCTCC TTCCGGCTGC CACCCGATCC CAGCTTGCCC
 TGCATCTGG TGGGTCCAG CACTGGCATT GCGCCCTTCC GGGGATTCTG GCAGGAGCGG CTGCATGACA
 TTGAGAGCAA AGGCTGTCAG CCCACTCCA TGAATTTGGT GTTCGGCTGC CGATGCTCCC AACTTGACCA
 TCTCTACCGC GACGAGGTGC AGAACGCCC GCAGCGCGGG GTGTTTGGCC GAGTCTTCAC CGCCTTCTCC
 CGGGAACCTG ACAACCCAA GACCTACGTG CAGGACATCC TGAGGACGGA GCTGGCTGCG GAGGTGCACC
 50 GCGTGTGTG CCTCAGCGG GGCCACATGT TTGCTGCG CGATGTTACC ATGGCAACCA ACGTCTGCA
 GACCGTGCA CGCATCTGG CGACGGAGG CGACATGGAG CTGGACGAG CCGGCGACGT CATCGCGGTG
 CTGCGGGATC AGCAACGCTA CCACGAAGAC ATTTTCGGG TCACGCTGCG CACCCAGGAG GTGACAAGCC
 GCATACGCAC CCACAGCTTT TCCTGTCAG AGCGTCAGTT GCGGGGCGCA GTGCCCTGGG CGTTCGACCC
 TCCCGGTCA GACACCAACA GCGCTGAGA GCGGCTGGC TTTCCCTTCC AGTTCGGGA GAGCGGCTGC
 55 CCGACTCAGG TCCGCGGAC CAGGATCAG CCGCTCTC CCTCTTGAG GTGGTGCTT CTCACATCTG
 TCCAGAGGCT GCAAGGATTC AGCATTATTC CTCCAGGAAG GAGCAAAACG CCTCTTTTCC CTCTTAGGC
 CTGTTGCTC GGGCTGGGT CCGCCTTAAT CTGGAAGGCC CCTCCAGCA GCGGTACCCC AGGGCCTACT
 GCCACCGCT TCTGTTTCT TAGTCCGAAT GTTAGATTCC TCTTGCTCT CTCAGGAGTA TCTTACCTGT
 AAAGTCTAAT CTCTAAATCA AGTATTTATT ATTGAAGATT TACCATAAGG GACTGTGCCA GATGTTAGGA
 60 GAACTACTAA AGTGCCTACC CCAGCTC-3' (SEQ. ID NO:3003)



Human Factor Related Anti-sense Oligonucleotide

5'-CCT CCT TCC TGG TCT GTC TGC CBG BCB BBT TTG GGB BGT GBB CBG TTT TGG BBC CBT GTT TCC CBG TCT
CTG BGC TGT GGC GGC CTG CTG CTC TTT CTG CT TCC CTT GGT GGG TTG GGC C GCT GGT TGT TCT GGG GTT
C TTG CTG CCC CTT CTG TCC C TGT TTG CTG GTG TCT GCG C CCC CBB CBG BBG BBG CBG BCB BBT TTG GGB
5 BGT GBB CBG TTT TGJ BBC CBT GTT TCC TGT GCG CTC GGC CTG GTC CCG G GGG TCT CCT CTT GTT GTT GC
TTG CGC CTC CTG CIG GGG GT CC CTC TGT TCT TGT TTT GGG GGC GGG CCC GGC CGT TGT CTT G GTT TGG
GGG TTT CCG TTG GGG TTC TCC TGG CCC GGG CTT TGC CC GGC CGT GGT CCC GGC TTC GTTCCT GTC TCC
GTC TCG GCT CTT CTG GGG CTT TGC GCT GTC TTT GGT G GCB CCG TCC BGT GBT GGT GTC GTB CTT GTC
GCT GCB GCG CTC GGC CTG GTC CCG GBG BGC GCG CCG GCG GGG GGC TGG G GGT TGG CCC GGG GTG
10 CCC C GCC GCT GGG TGC CCT CGT CCT CTG CGG TC GTG TCT CCT GGC TCT GGT TCC CC GCT GCG CCC GTT
GTC CTC TGG GGT GGC CTT C GCT CCC GGG TCT GGT TCT TGT GT TGG GGG TCC CTT TTT GGG CCT GTT G
GGC GTG GCT TGT GIG TTC GGT TTC TGC CCT GTC CTC CGG CGT CCC CGG BGC CTC CCC GGG GCB GGB TGB
CTT TTG BGG GGG BCB CBG BTG TCT GGG CBT TGC CBG GTC CTG GGB BCB GBG CCC CGB GCB GGB CCB GGB
GTG CGG GCB GCG CCG GCC GGG GGC TGC TGG GBG CCB TBG CGB GGC TGB G CCT CTT TTC TGT TTT TCC C
15 CTC TGC CTT TGT TTG GGT TCG CTT CTT TCT TGC TTC TTC C CTG TGT CTC CTG TCT CCG CTT TTT TCT TCT
GTC TTT GTT GTT TTT TCT TCC TTG CTG BGC BBG BTB TCT BGB TTC TGC GGT GGT CBT GBT TTT BBBB GCT
TGB GBB GCT GCB BHC BTT BTC CBB BGT BTB TTT GBG GCT CCB BGG BTC BCG BCC BTC TTC CCB GGC BTT
TTB BGT TGC TGT CCT BBG TGB GBG CTG BGB GBB BCT GTG BBG CBB TCB TGB CTT CBB GBG TTC TTT TCB
20 CCC GTT CTT GGC TFC TTC TGT C CGT TGG CTT CTC GTT GTC CC TGT GGG CTT CTC GTT GTC CC CCC TTC
GGG GGC TGG TGG GJC CGT CCT TGC CTG CTG G GTT CTT GGC TTC TTC TGT CCG T TGG CTT CTC GTT GTC
CC TGT GGG CTT CTC GTT GTC CC CCC TTC GGG GGC TGG TGG GGC CGT CCT TGC CTG CTG G TTT TCT CTT
TCG CTT TCT TTT CGT TTC CTG TTC CTC CTT TT TTG CTG TTT TTT CTC CTT CTT CTC TCC TTT CTT TTC TTT
TCT CTT TCG CTT TCT TTT CTT CGT CTC CTG TTC CTC CTT TT TTG CTG TTT TTT CTC CTT CTT CTC TCC TTT CTT
25 TTC CTC TGT CTT GTT CTG GTC CTT CGT GGG CTT CTG TGT CCG GTG G GTG CCG CCG TGG CC GGC GGB
CCB GGB GTT GGB GCB GGB GCB GGB CGG GCB GGC GGC TCB TGT TTG GBT CGG CBG GBG GCB CTC CTC TGG
TTG GCT TCC TTC GGC GGC BCB TGC TBG CBG GBB GBB CBG BGG GGG BBG CBG TTG GGB GGT GBG BCC CBT
TBB TBG GTG TCG E TCCCTGTTTCCCCCTTTCG TTCTGCGTTT GCCTTTGGCG TTTTGTGTTT GTTTTCTCTC
TCCGTCTTTC TTCTCCCT GTGGGBBTTT CTGTGGGGBT GGCBTBCBG TBGGCBGCTC CBBGBGCTBG
30 CBBBCTCBBB TGCBGBBGC TCCTCBTGGC TCTGBBBCGG TGGGAATTC TGTTGGGGBTG GCATACACGT
AGGCAGCTCC AAGAAGTACG AAATCAAAT GCAGAACATC CTCATGGCTC TGAACG GGGGGTGGCT
TCTGCGCGCG TCTGJGGCC GTCCCGTCCC TCGGACCCGC GCCGCTGCC GCTCCTTCC CTCTGGCCCG
GCTCGGGGCG GGGCGGGGCG GTGGGCGGGC GCGCGTGCCC TGCGCGCGGC GCTGGCCCCCT GCTGGCCGTC
GGCTGCGCGC TGCTGGCTGC CTTGCTGGCC GCGCCGGGGC CTGTCCGCCT CTGCGGGGCG TGTCCTCTGG
35 CTGTCTTCC GGCTTTCTG CTGGGGTGG GCTGGGCGGC CGGCCCGGTG CTGGGGCTCC TCGGGGGGGG
GGGCTCTTCC GGGCTGTCTC CCTCCGGGC GGGGGTTCT GGCGGTGGGG GTCTTGCCGT GCCTCCGGGC
TCCTGCTTGT CTGTCTTCC TTCTGTGGT GGTGTGGCT CGGGGCTCCG TGGGTCCCTG GCGCCCGTTT
GTGTTTTGTC TTTTCCCTC GCGTCCCTGT GCCCTCTCC TCTCCTCT CTGCTCTCG CTCTCCTTGT
TGGGGCCCTC CCTGCTGCTC TGGTTTTGG GCTTTTTTC TCTCCTCT TTTTCTGTG TGGGCTCC
40 GCACGCCTCT TGCCACCTCC TGCGCAGGC AGCCCTTG GGCACGCGC GCTCCCGCG CGCCAGCAG
GGCAGCCAGC AGCGCGCAGC CGACGGCCAG CATGCTTCT CCTCGGTAC CACTCCATGG TCCCGCAGAG
GCGACAGGC GCBGCGCTC TTGCCBCTC CTGCGCBGG CBGCGCCTG GGGCCBGC GCCTCCCGGC
GCGGCCBGC GGGCBGCBG CBGCGCGCB CCGBCGGCB GCBTGCTTCC TCCTCGGCTB CCBCTCCBTG
GTCCGCBGB GCGGJBCBGG C GGGGTGGBB GGTGTGGBT BTGTCTTBT GCBCTGBCBT CTBBGTCTT
45 TBGCBCTCT TGCCBBBCT GCBCTTCTC BCBGBGCTG BGBBBTCBG BBGGCTGCC BGBGBGCCBC
GGCBGCTTG GBBCTBTGT TTBCTBCBG TBGBTGTT CTTCCGGGCT TGTGTGCT TGCTGTCTCT
TGTTCTTCT CGGTGTCTT TCTCTGGCT TGTCCTTCT TCTGG CCCT TGGC CGGBGTGGG GGTCTGGBG
GGCBCTGBBG GCBTCCBGG CTCCCTTCCB GTCCTTCTG TCCGCTGCC GCBCCCTTC BTCCBGBGG
CTGBTGGCCT CCBCCBGGG CBTGBTTBG TBGBBBCTBG GBGGCCGGC TCCBCCBGG BCBTGGTCT
50 TCTGTCCGC TGCCCTCTG GGGTTTCCG TCTGGGTGG CTTCTCTCT GGGGCTGCTG CTGGGCTCT
CTTTTGT TTG CTGGCTGGT GCTCTCTCG GCCCTTCCC TTGGGTGCT TGTTTTGTG GCCTCCBCCB
GGGCBTG GTCTTTGTT CTGGGCTCG GCCCBTCCC GGCTTCTCT TGGTTCCGCT CTCTGTGCTG
TTTGGCCCTG CTCCTTTT CTTGTTGAG GGGCAGAGT TGGGCCCAA AGGCCCTCT GTTACCTTC
TGGCAGGAGT GCATCCCCATA GTCAAACCT GTGGTCGTGT CATAGTCTC TGTGTGTGTT GGAGTTTCCA
TCCCGGCTTC TCTCTGGTTC CAAGGGAGB GGGGGCBGCB GTTGGGCCCC BBGGGCCCTC TCGTTCBCCT
55 TCTGGCBCGG BGTGCBTCC CCBTGTCTB BCTCTGTGT CGTGTCTBG TCCTCTGTG TGTTTGGBGT
TTCCBTCCG GCTTCTCTCT GTTCCBBGG GB GGGCBCGGG CBGTGGGCG GCBTGTBGG CBBBGCBCB
GGGTGTGGTG TCCBGBBT BTGGGGGGC BGBTGCBGG GCGCBGCGG CBGTBGCBBT GBGGBTGCB
GCGBGGCGTG CCGGGBGBC CTTCTGTGT CTTGTGGBG GGCTGTGGB GGGGGTGTG TGTCGCTGT
60 GCGGTCTTCT CGGGTGTTT TTCTCTGGT TGGCGTCTG CTCGTCTGGT CGCTCCGCTC CCGGGTCTG
CTCGCTGCT CGCCCTTCC TTCTTGTG TGTCTCTCT TTCTGCTCT GTGTGTTGTT BCCBBGCBT
CBBGBBTBGC TTGTBTCT BBGGBTCB TTBGBCBTB GGBBBBCGCT GTBGGTCBGB BGBTGTGCT

[illegible]

BCCTTCBCBC BGBGCTGCBG BBBTCBGBBGG CTGCCBBGBGBG CCBCGGCCBGC TTGGBGTCBT GTTTBCBCBC
 BGTGBGGTGC TCCGGTGGCT TTTTGCTTGT GTGCTCTGCT GTCTCTG TTC CTTCGGGTGG TTTCTTCTG
 GCTCTTGTC TTTCTTGG CCCTTGCCCC GTTBGCBGG BBGCTCTGGG GCBGGGBGCT GGBGGGGCCC
 BGGGGGGTGG CTTCCTGCBG TGTCCBGBGT GCBCTGTGCC BCBGCBGCBG CTGCBGGGCC BTGBGCTTCB
 5 TGGGGCTCTG GGTGGCBGGT CCBGCCBTGG GTCTGGGTGG GGCTGGGCTG CBGGCTCCGG
 GCGGTCCBGCCTGGGTCTG GGGGCTGGG CTGCBGGCTC CGGGCGGGCG GGTGCGGGCT GCGTGTGGG
 GGCTGCCCCG CAGGCCCTGC GGTCCBGGCB TGGGTCTGGG GGCTGGGCTG CBGGCTCCGG GCGGGCGGGT
 GCGGGCTGCG TGCTGGGGG TGCCCCGAG GCCCTGC GCBCCGCTG GBGCCCTGGG GCCCCCTGT
 CTCTTGGGG BGCCCTCTCT CGGCCBGTCT CCBGTCCCG BTCTGTCTT CBGTGCTCBT GGTGTCTTT
 10 CCBGGGBGB GBGCGGCTGG TCCTCTGCTG TCCTTGCTGG TGCTCBTGGT GTCTTTTCCG CCCTGGGGCC
 CCCCTGTCTT CTGGGGCTCT CTCCCTCTG GGGGCCGTCT CTCTCCCTCT CTTCGCTCTC TCTCTTCTC
 TCTCTCTT CCCCCTTCC GCTCTTCTG TCTCGGTGTC TGGTTTTCTC TCTCCGCTGG TCTCCTGTCT
 GGCCTGCGCT CTTCGCTGT GCTGTCTCT CTCCGGTCTC TGTCTCTCT GTCTGTGCGC CCCTCTGGGG
 TCTCCCTCTG GGTGGTGGTC TTGTGCTTG GGCTGGGCTC CGTGTCTCCB GTGCTCBTGG TGTCCGCTGB
 15 GGBGCGTCT GCTGJCGCTG GTCCTCTGCTGCT CTGCTGGTG CTCTGTGGT CTTTCCGCC CTGGGGCCCC
 CCTGTCTCT TGGGCGCTCT TCCCTCTGGG GGCCGTCTC TCTCCCTCTC TTGCGTCTCT CTCTTCTCT
 CTCTCTCTT CCCTTCTCCG CTCTTCTGT CTCGGTGTCT GGTCTTCTCT CTCCGCTGGC TGCCTGTCTG
 GCCTGCGCTC TTGCCTGTG CTGTCTCTC TCCGGTCTCT GTCTCTCTG TGTGTCGCC CTCTGGGGT
 CTCTCTCTG CGTCTGGTG TTGTGCTTG GGCTGGGCTC CGTGTCTCCB GTGCTCBTGG TGTCCGCTGB
 20 GGBGCGTCT GCTGCC CTGCTGBGGC TTGGGTCTCC GGGCGBTCT CTGCBGBBGB TGCTCBBBGG GTCCCGCTGB
 TTCCTCTTG BTCTGTGCTG GTCGTBCCBG TCGGBCCBGT BBTTCBGBTC BTCTTGGCT CBTBTCTT
 CTGCBBBCBG CTGEGTGGBG BCBBGBBBB BGBCTGCCBB GGCCBCBGG BTTTCTBTGT TGGBTCTTGC
 GBCGGBCBGT CCCC CGGGGT GCTGAGTTT TCTGGTCTCT CCBGCGCBC GTGGTCTGTC CGCGTTCTC
 TGGTCTCTCC GGTCCCGCG GGTGCTGTCT GGTGCTGTCT GTGGCTTGGG TCTCCGGGCG GTTCTCTCC
 25 TTTCCGC CGGCCCTTCT CACTGGAGGC ACCGGGAGT CCTCCATGG AGGGTTGGGC TTGGCCGGGG
 CTGCCCCGTG CTCTCTCTG GCTGTCTCT CGTGTCTCT GGGCCCCG TCCCGTCTG CGGCCTCCGT
 GTTCTTGGC CTCTGTCTC GCCTGTGTC TTGTCCGTC CCCTCTCTG TTGCGTTCT CTCTTCTTG
 TCTTCCAGG CTCTCTCCG TCCGCTGCT GGGGCCCGC CGGGGGGGG GCTCGGCTC CGCGTTCTCT
 CCCCCTGCTG GGGTCTCTG TCTCCGGGGC CTGCGGCTCG CGGGCTCGG GCTGCGTGC CGCGCGCGG
 30 CGTCCGCGGT GGGTGGCGCT GTCCCGCGT GGTGTGTCTC CGTCTCTGCT CTGCGCGCTC CTGGTCTGCC
 CGTGGGGTCC TGGC CGTGGT GGGGGGCGTC TGGTGCCTCG TCTGCCCCGT GGGGCTTCGG GCTCGGGCT
 GTTCTGCCCC CTGCGCGCT TGTGCGCTC GGGGCTCTC GTTTCGCTG CTTCGGGTGT CTTCTCGGC
 GTGTGGCCCC GGGTCCCGG CCTGTGGGC TGGGCGGGGT CGCTGCCCTG GGCTTCTGGC CCGTCTGGT
 GTCTGTCTG GCTGTCTG GGTCTCTGGC CTCTGTGCTG GCGCTTCTC TGCTCTCTG TCCGCCCTC
 35 TGGTGGCTG GCTGGGGTG CCGTGGGG GGTGGGTG GGTGTTTTC GGGTCTCTC CCTTCC GTT TCA
 TCT TGG CTT TAT CTCT CCC CTT GTT CCT CCC CTCT CCT GCT CTG GRG TCT CCT C TTC CCT CCC TCC CCT
 GCC GTG TTG TCT GTG GGT GTC GTT TCG CTC TTG TTG CCC TGG GCC CTT CCC TGC TGG GGG GGA GTT TCA
 TCT TGG GTT TCB TCT TGG CTT TBT CCTCT CCC CTT GTT CCT CCC CTCT CCT GCT CTG GRG TCT CCT C TTC
 CCT CCC TCC CCT GCG GTG TTG TCT GTG GGT GTC GTT TCG CTC TTG TTG CCC TGG GCC CTT CCC TGC TGG
 40 GGG GGB GTT TCB TCT TGG GGG GGB GTT TCB TCT TGG CTT T CCGTGTGTC BGTGGTGTG CCCGTTTGBG
 GTBTGGCGCT CCBCCBTTT CCTTTTCTCC TTGTTTTCCG TTCTCTTGC CGTCTGTGGT T GCTCAGCTC
 CAAAGGAGCC AGCTCTCTCC CAGTTCTCTA AATCTGAGT GTTGCTTGC AGTCGCCATG AGAATCTCT
 ACCCTCTGCT GTTACTCTT TGCTACTTGT TGCTAGAT GGCCTCAGGT GGTAACTTTC TCACAGCCCT
 TGGCCACAGA TCTATCATT ACAATTGCGT CAGCAGTGGA GGGCAATGTC TCTATTCTGC CTGCCGATC
 45 TTTACCAAAA TTCAAGGCAC CTGTTACAGA GGAAGGCCA AGTGCTGCAA GTGAGCTGGG AGTGACCAGA
 AGAAATGACG CAGAAGTGAA ATGAACTTT TATAAGCATT CTTTAAATAA AGGAAAATTG CTTTGAAGT AT
 ATCCTTTAAG TCAATGGACT TTGCATCAGT CACACCATCT TTGTACTT TGGACTTCCC CAGCTATGTT
 CAATAATTAC TGTCTTCCC TTGGGCCCCA TTGTAATGGC TACAGCCTCG ACAAAAAGTC TACACTTTGA
 AGCATTAAGG CTCCGACATC AGCACCAGAT TTTACATCTT TACCATCACT TCAAGTGAGG TGAGGAGCCA
 50 GTAGCCTGGA CACTGGTCTC ATCTGGTGAA AGACTGTGGG TAATGGAAGC ATTTCTGTGG GGTGCTGGCA
 GGACATGTGC ATGCGAGGC AGGTATCAG CAGCAAGTGA GAGCTGCCTC TTACTTTCTA AAGGTGACAT
 AGCAAATATA CAAAAAAAAA TAAATAAATT ATTAATTTAG GTAGAGCACA TAAAGGCTTT ATTTCATATT
 CCATTTCTCT GTATGCTTTC TTCACCAGGA AGAAATAGTT TTAGTGTGAG GAATGAATGA GTCTGCCCTT
 CAATTCCAGC CTGCTCAACA CACAAGGAAA CAAAGCCCTG ACAATCAGAG TGAATCCCTG GTGACTAAGC
 55 TCCAGTCTT GGAATCATAT TTGTTAGCA GTTCTGACAG CATTTGACCC AGCCCTCTCT CTGCATATCC
 CATCAGAACC TTTTTTTTT TTTTTTCTT TGAGACTGAG TCTTGTCTG TCGGAAGCGA CTCTGTGCC
 TCAGCCTCCC AAAATACCTGG AATTATAGGC GTAAGCCATC ATGCTGTGGT AATTTTGTGA TTTTTCATGG
 AGATGGGGT TTGCTAGTT GGTCAAATTG GTCTCACACT CCTGACCTCA TGTGATCCAC CTGCTCAGC
 CTCCAAAAC GCTCGGATGA CAGGTGTAAG CCACCATGCT AGGCTCAGAA ATTTCTTTT ATAAAAATGT
 60 CATTAAGGAT CTTCGCTGCA CAATATCGTT ACCAGCTTCC TTAAATCCA CTCTGGCCT GCCAGGAATC
 AGGTTCTTCA GAACCTGACA TTTTAAATGA AGAGGTCAGG CAGTTTATGA GGAAAGCCTC ATTGTCCCA
 TGTCTCTGTC ACTGCTGCAC CCCTGAGACA TCACAGACAT GGACACTGGG GCCTGCTGTG TTCTCAAAC

00400 " 649460

TCTCCAAATA CAAACACCTC CTGAGGCACT GTTAGGGCTT CGACACAGGA ATTCTTTTCC TAGGGGATTC
 AGTTCAGTCC AAAACGCCTA CCAGTGGAGA CTGCAACAT GGCGGCCTGC TGGTCCCTCG CCAGGAATAT
 CACAGGCGAC TGTTCCTGT TGCATGGAAT AGAAGGCTAT TCCAGAGTAC TGTCTCTATT TATCAGATCT
 GGGATACTGG GAGAAGGGCA AAATAAAGTC CAAGTAGAAA AAAAAACTAT GAAAGTTTAA GAGAGTAACC
 5 ATAATTTCAG CCCGATGTGA AACGATCCTA GATTTCAGCT GAAATAGTGA TGTGGGAAGT GAGGGGCGCG
 GGATTCAAGG CAGAAGGAAC AGCGTAACTG AAGGCATGGA AGGAGGGAAG TGTAGGCTGT GTTTGAAGAG
 TGGCAGCTGC TTCCACATTT CTA AAAACACA GGATGTGATT TTGGGGTGTG TTGAGACAAG GCAGAAAACCT
 TGTTTGGAAA AATAACTTGA ATTCCCTGCA CATTTAAAT CTCTCAGCAG AAGAAAACCC CACTCAGAAC
 CCCACTGTTC ATTCTTTGGC TTGTATTTGG SCACAGCTGG CATAGCCCCA GACTGAGTAA GCTCTTCAGA
 10 CACCTCATTT CATGAGTAGC CCCAAAGATC AATCATGGGG CAATTTCTTG GAAGAGAAGA CTCTCCGGTG
 TTTTGCAGTT ATTTTCTCTG CTTTCGCGAG ATGTTCTCAA ATCGTTGCAG CTACAAGCCA TGAGTCTGAA
 GTGTTTGTGT TCCCTTCCTTA CAGGTGGTAA CTTTCTCACA GGCCTTGGCC ACAGATCTGA TCATTACAAT
 TGGCTCAGCA GTGAGGGCA ATGTCTCTAT TCTGCCTGCC CGATCTTTAC CAAAATTCAA GGCACCTGTT
 ACAGAGGGAA GGCCAAGTGC TGCAAGTGAG CTGAGAGTGA CCAGAAGAAA TGACGCAGAA GTGAAATGAA
 15 CTTTTTATAA GCATICTTTT AATAAAGGAA AATTGCTTTT GAAGTATACC TCCTTTGGGC CAAAATGAAT
 CTTGTGTCTC AATTGGAAGA GGTAAAGAAG TAGGGGGTTA GGGTGCATGG GTTGGAACGT GAGACAGGTC
 GAACCACAAA GCCGCTCTGG AAAAGGGGAG TGACGTCTTA GGCTTCAGTG ATGTCACCTC CACTTTGTTT
 GATCCACAAA CCAACAGGTG ACTGATTTTG GTCAGCTCAG CCTCCAAAGG AGCCAGCCTC TCCCAGTTT
 CTGAAATCTC GAGTGTGTC TGCCAGTCGC CATGAGAACT TCCTACCTTC TGCTGTTTAC TCTCTGCTTA
 20 CTTTGTCTG AGATGCGCTC AGGTGGTAAC TTCTCACAG GCCTTGGCCA CAGATCTGAT CATTACAATT
 GCGTCAGCAG TGGAGGGCAA TGTCTCTATT CTGCCTGCC GATCTTTACC AAAATTCAAG GCACCTGTTA
 CAGAGGGAAG GCCAAGTGCT GCAAGTGAGC TGGGAGTGAC CAGAAGAAAT GACGCAGAAG TGAAATGAAC TT
 GAATTCACAT TTCTCACCTT TTGATGTATT AAGAAAGTAT GGAGAAATAT ATCCTCTATC AAATTTTCAT
 GCCTTCAATA ATTTCTAATT CATCAGTCAG TGTTTTCCA TCCTTTACTG TGATGATGCC CTTTCTCCA
 25 AACTTTTCA TTGCATCAGA GATGATGTTA CCAATTTCTT TGTCTCCATT TGCAGAAATT GTAGCAACCT
 GTGCAATTTT TTCAGGTTTG GTCACAGGTT TAGACTGCTT TTTAAGTTCA GCAATTACAG CATCAACAGC
 TAACATCACA CCTCTCTTGA TTTCCACTGG ATTAGCACCT TTGCTAACCT TCTGGAAGGC TTATTTGGAA
 ATAGAGCATA CCAGTACAGC AGCAGTGATA GTGCCATCCC CCAGTCTCTC CATTGTGTT ATTGGCAACA
 TCTTGGACAA GTTAGCTCC AATGCTTTTA TATTTATCCT TTAAGTCAAT TGACTTTGCA TCAGTCACAC
 30 CATCTTTTGT TACTTTGGGA CTTCCCAGC TATGTTCAAT AATTACTGTT CTTCCCTTTG GCCCCATTGT
 AATGGCTACA GCATCGACAA AAAGTCTACA CTTTGAAGCA TTAAGGCTCA GACATCAGCA CCAAATTTTA
 CATCTTTACC ATCATTTCAA GTGAGGTGAG GAGCCAGTAG CCTGGACACT GGTCTCATCT GGTGAAAGAC
 TGTGGGTAAT GGAAGCATTT CTGTGGGGTG GTGGCAGGAC ATGTGCATGG TGAGGCAGGT CATCAGCAGC
 AAGTGAGAGC TGCTCTTAC TTTCTAAAG TGACATAGCA AGTATACAAA AAAAAATAAA ATATTAATTT
 35 AGGCAGGCA CATAAAGGCT TTATTTCTA TTCAATTTCT CTGTATGCTT TCTTACCAG GAAGAAATAG
 TTTTAGTGTC AGGAATGAAT GAGTCTGCCC CTCATTTCCA GCCTGCTCAG CACACAAGGA AACAAAGCCC
 TGACAATCAG AGTACTCCC TGGTGACTAA GCTCCAGTCC TGGATGCATA TTTGTTTAGC AGTTCTGACA
 GCATCTGACC CAGCCTCTC TTTGCATACC CCACCAGAAC CTTCTTTTTT TTTTTTTTTT TTTGAGACTG
 AGTCTTGCTC TGTCGGAAGC GATTCCCCTG CCTCAGCCTC CCAAATACCT GGAATTATAG GCGTAAGCCA
 40 TCATGCCTGG CTAATTTTGT TATTTTTCAT GGAGATGGGG TTTTGCCATG TTGGTCAAAT TGGTCTCACA
 CTCCTGACCT CATGTGATCC ACCTGCCTCA GCCTCCCAA GTGCTGGGAT GACAGGTGTA AGCCACCATG
 CTAGGCTCAG AAAATTCCTT TTATAAAAT GTCATTAAG ATCTTGGCTG CACAATATCG TTACCAGCTT
 CTTTAAATC CACCTCTGCG CTGCCAGGAA CTGAGGTCTT TCAGAACCTG ACATTTTAA TGAAGGGTC
 AGGCAGGTCA TGAGGAAAGC CTCATTGTCC CCATGTCTCT GTCACTGCTG CACCCCTGAG ACATCACAGA
 45 CATGGACACT GGGCCTGCT TGTTCCTCAA ACTGCCCTTA GATCGAAAGA GGGAGGAACC AGGATGAATG
 CCACTCATTT TCCCAAGAAA GGCCCTCTCC TGAGTGCCCG GGATGGGGCT CTGTCCATTG CCTGGGCGCG
 CCAATTGCTA CTCTGGTTA CGGAAGAAGG ACAGGTCTCT GAGAGACACC AGAGACCTCA CACAGCCTG
 AAAACATGGG GCTCTTCAT AAGTGTTC CATCACCAAC AGGGAGACCA CGTGAGGACC TTGCAGCCCT
 ACTCGTGCT TCTCACCAA ATCCCAAGGG CAGTGACGCT GACGTCTGTG GAAAGCAGAG AAAGCCCTGG
 50 CTCCCAAAGC CCGAAGTCC TGTGGAGCTG ACATTCCCTG AGTGACGGTG TGAATGGAAG GAACTCAAGT
 GCGGGTGGTA GGCACCTCC TGGCCAGGC CTGGGTGAAC TCTGAGGGGA CACATGTAGT CACAATCCCA
 TCCTCCCAT TCTCTCTCA GAGGAAGGAA GTGGGCATCC ATCTGCCTCA TCTCTCTCCC GTGGGGAAGA
 TGGGGAGTTT CAGCGGAAC TTTACATAAA TTTACCAGC TCAGATCTCC TGTGAGGATG GGGCCACCA
 TGCTCCGGT GCTGCCAGAG GCCCTGAGCC CCTCCAGGGT CCCTGGGTTT GAGCCAGCCC TGTATCATCC
 55 CCAGGAGCTG AATCTCCGAA CAATGATAG AATTAGATGG AAAGAGCTCT CAATTTGGCC TGAGACTGTC
 CCCAGATACT CAGGAAAAAC AGGACGTCGC ACAGAGTGGG CAGCAGGTGA GTGGCAGGTT ATAGGTCTCTG
 AGTTTGAAGT TGTCTCACG TGAGACAGAC CCAGCCCTC ACTCATTC CACTGGGT TTTAAATGGT
 GCAAGATAGG AGGAATTTT TGGTCCCAAG AGCAGGAGGA AGGGATTTT TGGGTTTCC TGAGTCCAGA
 TTTGCATAAG ATCTCTGAG TGTGCATTGT TCTTTGAGGA CCATTCTCTG ACTCACCAGG TAAGTGGCTG
 60 AATTCTAACC TCTGTAATGA GCATTGCACC CAATACCAGT TCTGAACTCT ACCTGGTGAC CAGGGACCAG
 GACCTTTATA AGGTGGAAGG CTTGATGTCC TCCCAGACT CAGCTCCTGG TGAAGCTCCC AGCCATCAGC
 CATGAGGGTC TTGTATCTCC TCTTCTCGTT CCTCTCATA TTCCTGATGC CTCTCCAGG TGAGATGGGC



	CAGGGAATA	GGAGGGTTGG	CCAAATGGAA	GAATGGCGTA	GAAGTTCTCT	GTCTCCTCTC	ATTCCTCTCC
	ACCTATCTCT	CCCTCATCCC	TCTCTCTCCT	TCCTCTCTCT	GTGTGTCCCC	TCCATCCTTT	TCTCCTGCTT
	CTCTCTCTTC	TTCCCTCTCT	CTCTTTTTTT	CTGTCTTTCT	TTTTCTCTCT	TCCCTAGAGC	ATGTCTTTCT
	TTCTTTCTCT	TTCC TTCTT	CTACCCACAC	TTTTAGACTG	AGTAGACTGA	ATGCCCTATT	TAATTGAACC
5	AAGCATTGCT	TCCTTCAATA	GAAAAGGAGT	TTGAGAACC	AATGGACAAC	TCACTCGTTC	TTCTAAGCCA
	ATATGAAGGA	GCCAGTAGT	TTGTAATAT	CATCTCTTCA	CTGCTTTCCA	TGTCACAAC	GCTGAGACTA
	TGGTTGAAGC	CTGTAGGTG	ACTTTTAA	TAAGAGGCAG	AAATTTGAT	TTTATCTAA	GAAAGTAGTA
	TAGAATGTCA	TTTTCTAAAT	TTTTATATTT	AAAGAGTAGA	TACTGCAACC	TAGAGAATTC	CAGATAATCT
	TAAGGCCAG	CCTA TACTGT	GAGAACTACT	GCAGCAGACA	CTCTGCCCC	AGGACTTTTC	TGATCAGAGG
10	CCCTGAGAAC	AGTCCTG	CTAGGCCAC	TGCAGGTTCA	CAGGACAGGG	ACAGCCCAT	GAAACCAACT
	TTTAAACCTG	GATGCCTAAC	CTTCATTTTC	TCCTTGATAT	TATGAAAATA	AAATAAAAAAC	CATGAAAGG
	TAAAAAGAGG	AGAGTGGAAG	GGAAGGATGG	AGAAAAGGAA	AAAGAAAATT	TGAGAGTAAA	TCCTAAAAACA
	ATTAATCTAA	TAGATATCAT	CTTGTGAAAT	CCTCATTTTA	CCAATCTTAT	TTATGAGTCC	TGGGTTTTGT
	GAGAACAAATG	GGGT TCTGAG	AGGCACAGAG	GACCTCATAT	TTTCCAAAAC	CTAGAACACT	ATAATGAAGG
15	AAGGAGGGAA	GGAC GGAGGG	AGGGAGGGAA	GGAGGGAAGG	AGGGAGGGAG	GGAGGGAAAC	AAAAAGAAAG
	ATGAGGTTGA	AACCGAGACT	TAGATATTAG	AAACAAGCCA	TTACAAAATT	TATTTCTATG	GTAAATTGTG
	GTTTTCAACT	GTAA GTTACT	TGGTGTTAAT	TTCTATTAA	ACAATTTTCA	TAAGTTGCAT	CTTTTTTATC
	CCATCTCAGA	TCAAATACTT	AACAGACTAA	ATGATTTGAA	AAAGCAAAAAG	TTTACTGGCT	TGTGTGTGTT
	AAAAATGGAGG	TATG GTGGCT	TTGATATTAT	CTTCTGTGG	TGGAGCTGAA	TTCAAGAG	ATCGTTGCTG
20	AGTCCTG	AGAC CCCAC	TGGAGGCCCC	AGTCACCTAG	GAGAGATCAG	GGTCTTTTAC	AATCAGGTCT
	TACAAAATTA	AACATCCCC	AAACCAACAG	AGTGCCAGTT	TCCATGTTCAG	AAACTTAGAT	CCAAATGACT
	GACTCGCGTC	TCATATCAT	GATGGAAG	CCCAGGCTTG	AGAAAGAGC	CCGCTGCGGA	TTTACTCAAG
	GCGATACTGA	CACAGGGTTT	GTGTTTTTCC	AACATGAGTT	TTGAGTTCTT	ACACGCTGTT	TGCTCTTTTT
	GTGTGTTTTT	TCCCTGTTAG	GTGTTTTTGG	TGGTATAGGC	GATCTGTGTA	CCTGCCTTAA	GAGTGGAGCC
25	ATATGTCATC	CAGTCTTTTG	CCCTAGAAGG	TATAAACAAA	TTGGCACTG	TGGTCTCCCT	GGAAACAAAAT
	GCTGCAAAAA	GCCATGAGGA	GGCCAAGAA	CTGCTGTGGC	TGATGCGGAT	TCAGAAAGGG	CTCCCTCATC
	AGAGACGTGC	GACATGTAAA	CCAAATTTAA	CCTATGGTGC	CAAAGATACG	CAATCTTTAT	CCTAGTAATT
	GTGTGTCATTG	GGT CATGTTG	GTTTGGGAG	GCCATCTCTA	ATATCTTTGA	AACACCTTTT	TCTGTCTTCC
	AGGAAGGGGT	CAGGCTGCC	ACAGCGGGGC	TTGGAGTGC	GAATTCCTG	TAAGCCCTGT	TACAGGGGCT
30	GCACCCAGAG	TACAACCTGA	CCTGTGTCCA	AGGCGGGCAA	CTCAACCTTT	AGATATTGAA	TGGGTCCCAT
	GGACCAATAG	CTTAAACACC	AGCAGCCCTC	ACAACCACAG	ATCGTGTTTT	AAGGATGAGG	AGGTAGTTCT
	CTGGATGCAC	AGGCTTCAAT	CCAAATGGGC	TCATGACGCC	GCAGCACACA	CCCAGTCTGC	AGCCTGAAGA
	GTTGGAGCAT	TGCA TTCA	GAAAGCATCC	AGACATGATC	ATGGGCTCAG	GGATACACCT	GTTCTCCGAT
	GTGTACCATG	GAAAGATGGA	AACTCCTATG	CCTCCAGAAA	AGCACTACTC	AAGCTTTTGC	TGAATGCTTC
35	TCTGAAGGCC	CACAAGGCTG	AGAGGCTGTG	CAACACCAGC	AGTAAAGTGA	ATGCCAGAC	TCCCACCTCC
	TTTCTTGGGT	GGCCATCTGG	AAAGGCCACT	CCCACCTGA	TGGCTAATGC	CTCAGACCAG	TTCTTGGCCC
	AGATGATCCT	AGACAATTGT	TTAAGCTTAA	ACTGTTTATT	GGCCAAGCAA	ACAGGTGATA	GTACCTCTGG
	GGAAACCAT	GCCCGGTGTA	CATCCAGATC	TCAGGAGAAC	CCAAAAATGT	CTGTTCCACA	TAGCAACAGA
	AGCCAGGTA	GCACTCAGTC	TCACCTGGGT	GTTCTCCAAC	ATCCCAGCTC	AGCCAAATGG	CTTTCATTAG
40	TTTTTATGGT	TAGACCCAG	GTCTTCGGGA	CACCTGCTTTA	GAAACACATT	CCAAATCTCT	CTCTGTGTGC
	AGGTGGCATT	CCTATCCCAA	TCTCTTTTGA	GGGCGTATAC	TGTGATACGC	AGCCAGGCTG	TCCCAGTGGC
	CTTAAATATT	CCCTTGGTGC	AGGTAGTTCA	GCTTAGCCAC	AGCCAAATGCA	TCACAGGGTC	AACAGTGTGA
	GGAGCCATTG	AGAA TCCATA	GTTGGTTGCT	GCCTGGGCCT	GGCCAGGGCT	GACCAAGGTA	GATGAGAGGT
	TCCTCTGTGG	AGTCTACTT	TAACCTCACC	TTCCCACCAA	ATTTCTCAAC	TGTCCTTGCC	ACCACAATTA
45	TTAATGGAC	CCAAACAGAA	GTAACCCCGG	AAATTAGGAC	ACCTCATCCC	AAAAGACCTT	TAAATAGGGG
	AAGTCCACTT	GTGCACGGCT	GCTCCTTGCT	ATAGAAGACC	TGGGACAGAG	GACTGCTGTC	TGCCCTCTCT
	GGTCAACCTG	CCTAGCTAGA	GGATCTGTAA	GTACTACAAA	ACTTAAACTT	TACACTGAGT	TTATCATCTT
	GAAGCTATGC	CTCCAATCTG	ACCTCTGACT	GTTGGGCCCG	CCCAGAGGGA	CCCAGCGGGT	GAATCCCTGC
	TAGGAACGTC	TGTC CGGACC	TCTGGTGACT	GCTGGGGACG	ATGGCTTCCA	GCTAACTTAA	TAGAGAAAAT
50	CAAGCAGTTT	CCTTCTAAAT	ACACATGTCA	CATGTCCTGG	TTGACATGTC	CAGTAAGAAG	ACTATCACAG
	GTCTTTGGAA	CATCTTTTGG	AGAGAAACCT	ATTTAGGTCC	TTGGTCTGTT	TTCAATCAG	GTTGTTTGAT
	TTTTGCTATT	GAGTGTGTTG	AATTCCTTAT	GTATTCAGAT	ATTTGCCCT	TCTGCCATGT	AGGTTTTGCA
	AATATTTTCT	CTCATTTTCT	GGGTATCTT	TTCACTCGGT	TGATTTGTTT	CTTTGCTGTG	CAGATGCTTT</

Variable	Mean	SD	Min	Max
Age	35.2	12.5	18	65
Gender	Male	10.1	0	20
Marital Status	Married	15.3	0	30
Education	High School	5.2	0	12
Occupation	Unemployed	8.7	0	20
Income	\$15,000	10,000	0	50,000
Health Status	Good	12.4	0	25
Smoking Status	Non-smoker	18.9	0	35
Alcohol Consumption	Low	10.5	0	20
Exercise Frequency	Low	8.3	0	15
Stress Level	High	14.7	0	25
Sleep Quality	Good	11.2	0	20
Depression Score	Low	9.8	0	20
Anxiety Score	Low	10.1	0	20
Life Satisfaction	Low	12.5	0	25
Resilience Score	Low	11.3	0	20
Self-Esteem Score	Low	10.7	0	20
Optimism Score	Low	11.9	0	20
Gratitude Score	Low	12.1	0	20
Forgiveness Score	Low	11.5	0	20
Empathy Score	Low	11.8	0	20
Compassion Score	Low	11.6	0	20
Kindness Score	Low	11.4	0	20
Generosity Score	Low	11.7	0	20
Patience Score	Low	11.9	0	20
Humility Score	Low	11.5	0	20
Modesty Score	Low	11.3	0	20
Shyness Score	Low	11.1	0	20
Introversion Score	Low	11.0	0	20
Neuroticism Score	Low	10.9	0	20
Extraversion Score	Low	10.8	0	20
Agreeableness Score	Low	10.7	0	20
Conscientiousness Score	Low	10.6	0	20
Openness Score	Low	10.5	0	20
Emotional Stability Score	Low	10.4	0	20
Psychological Well-being Score	Low	10.3	0	20
Life Satisfaction Score	Low	10.2	0	20
Meaning in Life Score	Low	10.1	0	20
Positive Psychology Score	Low	10.0	0	20
Overall Health Score	Low	9.9	0	20
Quality of Life Score	Low	9.8	0	20
Life Expectancy Score	Low	9.7	0	20
Healthcare Utilization Score	Low	9.6	0	20
Medical History Score	Low	9.5	0	20
Genetic Risk Score	Low	9.4	0	20
Environmental Risk Score	Low	9.3	0	20
Lifestyle Risk Score	Low	9.2	0	20
Behavioral Risk Score	Low	9.1	0	20
Social Risk Score	Low	9.0	0	20
Economic Risk Score	Low	8.9	0	20
Political Risk Score	Low	8.8	0	20
Cultural Risk Score	Low	8.7	0	20
Religious Risk Score	Low	8.6	0	20
Ethnic Risk Score	Low	8.5	0	20
Language Risk Score	Low	8.4	0	20
Religion Risk Score	Low	8.3	0	20
Philosophy Risk Score	Low	8.2	0	20
Art Risk Score	Low	8.1	0	20
Science Risk Score	Low	8.0	0	20
Technology Risk Score	Low	7.9	0	20
Environment Risk Score	Low	7.8	0	20
Climate Risk Score	Low	7.7	0	20
Geography Risk Score	Low	7.6	0	20
History Risk Score	Low	7.5	0	20
Law Risk Score	Low	7.4	0	20
Medicine Risk Score	Low	7.3	0	20
Education Risk Score	Low	7.2	0	20
Business Risk Score	Low	7.1	0	20
Finance Risk Score	Low	7.0	0	20
Energy Risk Score	Low	6.9	0	20
Transportation Risk Score	Low	6.8	0	20
Communication Risk Score	Low	6.7	0	20
Information Risk Score	Low	6.6	0	20
Security Risk Score	Low	6.5	0	20
Defense Risk Score	Low	6.4	0	20
Justice Risk Score	Low	6.3	0	20
Government Risk Score	Low	6.2	0	20
Public Administration Risk Score	Low	6.1	0	20
Public Health Risk Score	Low	6.0	0	20
Public Safety Risk Score	Low	5.9	0	20
Public Welfare Risk Score	Low	5.8	0	20
Public Order Risk Score	Low	5.7	0	20
Public Security Risk Score	Low	5.6	0	20
Public Health Care Risk Score	Low	5.5	0	20
Public Safety Services				



5	GGTGAACCCA	CGAGTAACAT	AGCAGGGTCT	TTCTTGTCAT	TATTAGCTCC	AACCTAGCAC	AGACATTA
	GGTACAGATG	TATACTAGCA	TGAAACTGGG	AGAACAGGAG	CATTGAGCA	ACCTTGAGAC	CAATGGCCT
	CTCTATAAA	ATGACACCT	CCTCTCACTG	AGATTGAGGA	AGGTTTCTTG	TCTCCGAGCC	TTCTCCAGT
	AGAGCTATAA	ATCCAGGCTG	GCTCTCCCT	CCCCACACAG	CTGCTCCTGC	TCTCCCTCCT	CCAGGTGACC
	CCAGCCATGA	GGACCCCTCG	CATCCTTGCT	GCCATTCTCC	TGGTGGCCCT	GCAGGCCAG	GCTGAGCCAC
10	TCCAGGCAAG	AGCTGATGAG	GTTGTGCGAG	CCCCGGAGCA	GATTGCAGCG	GACATCCCAG	AAGTGGTTGT
	TTCCCTTGCA	TGGGACGAA	GCTTGGCTCC	AAAGCATCCA	GGTGAGAGAG	GCAGGCATGC	AGAGCTGCTA
	AGCTTAGAGG	GAAAGACGGG	AGAGAGGTTT	CAGAGTTGGG	TCTCAGCAGT	CTATGCTCACT	GAGGTGGCTT
	CACCTAGAAT	CTCAGGCGAT	TGATTTTCTC	ATCTAGAAAT	TGAACAGAGA	GCCAAATAAA	CCTGAGAAAC
	TTTATTTCTC	CAAAAGACTTG	ATTCCAAGAA	ACATCTGTGA	AATTCACTAA	GTTTAAGATA	TGAAGAGACA
15	GACTAGTTAT	TTCTGGATCT	AAACAAGTAG	ACTTAGTTGT	AAAGAGAACA	TTTTACTCTA	TCTACAGAAG
	AGCTTTTAAA	AACAGCAGCC	AAGCCTGAGG	GTAAGTTCAG	GTGTGTGTGT	GATGGGGCAG	GAATGCAAAA
	ATGAGAGCAA	AGCAGAATGA	GTCTCAAATT	CTGTGTGACA	AGCACTGCTC	TGCGTGTTTA	TTCTATCGA
	CTGAGGTTGT	TCTGCTACCT	GGCTGCAATG	CAGCCAGCAT	CACCTGTCAG	CTAGCATGTG	ACTTCCCCGA
	GATTTCTTTT	CTTACCCACT	GCTAACTCCA	TACTCAATTT	CTCATGCTCT	CCCTGTCCCA	GGCTCAAGGA
20	AAAACATGGA	CTGTATTGTC	AGAAATCCAG	CTGCTATTGC	AGGAGAACGT	CGTATGGAA	CCTGCATCTA
	CCAGGGAAGA	CTCTGGGCAT	TCTGCTGCTG	AGCTTGCAGA	AAAAGAAAAA	TGAGCTCAAA	ATTTGCTTTG
	AGAGCTACAG	GGATTGCTA	TTACTCTGT	ACCTTCTGCT	CAATTTCCCT	TCCTCATCTC	AAATAAATGC
	CTGTATACAA	GATTTCTGTG	TTTCCACCTC	TTTAATGTGT	GATATGTGTC	TGTGTCAAGA	CACTTGGGAT
	ACACGTACCA	AAACGCAAAA	TCAAAATTTT	GAACAATATA	CCTACCTTGC	TATAGAAGAC	CTGGGACAGA
25	GGACTGCTGT	CTGCTCTCT	TGGTCACCT	GCCTAGCTAG	AGGATCTGTG	ACCCAGCCA	TGAGGACCCT
	CGCCATCTT	GCTGCCATTC	TCCTGGTGCG	CCTGCAGGCC	CAGGCTGAGC	CACTCCAGGC	AAGAGCTGAT
	GAGGTTGCTG	CAGCCCCGGA	GCAGATTGCA	CGGGACATCC	CAGAAGTGGT	TGTTTCCCTT	GCATGGGACG
	AAAGCTTGGC	TCCAAAGCAT	CCAGGCTCAA	GGAAAAACAT	GGACTGCTAT	TGCAGAATAC	CAGCGTGCAT
	TGCAGGAGAA	CGTCTGCTATG	GAACCTGCAT	CTACCAGGGA	AGACTCTGGG	CATTCTGTCTG	CTGAGCTTGC
30	AGAAAAAGAA	AAATGAGCTC	AAAATTTGCT	TTGAGAGCTA	CAGGGAATTG	CTATTACTCC	TGTACCTTCT
	GCTCAATTTT	CTTTGATCAAA	TTTACCTATT	ATGCATTTGA	TATATAAATA	AGTATATAAA	TGCACACACA
	GACACAGCAA	TGATGGTGAA	CAGTCTTCAT	ACAATTATAT	GGATGAATCT	CATAAAATGC	TGAGTTAAAG
	AAATCAGAGC	AAAAGAACATA	TACTGAAAGA	TTCTCTCTAT	ATACAAAAGT	CAAAAATAGG	TGGACCAATT
	CATGGTGGTG	TTAGAAATCA	GAAGAGAGGC	TACCTTTGTG	GGGAGGGGAC	AGTTTAATGC	CCAGAAGCGG
35	TAAATAAGGA	ATCTCTGGG	GAGTGGTAAT	GATCTGGATG	CTGGCTACAG	GATGTGTGGG	TTGTAATAAT
	GCATTTTTTT	ATACTAGCT	TTTTCCATGT	GTATATTATA	CTTCAAGAA	GTTCAGTTAA	TATATTCTCA
	TGTCATGTGA	GAGTAGCTCA	GTTAGCCCCA	GCAAGCCTCT	GGCTTAATCT	TGTTTTACCT	TAAGCCATCA
	GTCATTTACA	AGTAGGAAAA	TTACACAGGA	AAGTTAGAGT	ATAAAATCCA	GAATGAAGGT	TTACTGGGTA
	AGAGTCTCTC	CATTTTCCAA	AGCCCGTTTA	TTCTTGATT	CCAGTCTTA	AGAAGTCTCA	GCATTGTGTC
40	TTTTTCATGT	ATCTTACAAG	AAGACAGCAT	GTGCTTCTAA	CACCTGATAC	ATTGTATCTA	CCAGCACTTG
	GTAACAGCAA	AAGAACCACA	TTTTTCTTGT	AGGAGAAATT	TGGTGCCCTAT	TTCTTACCAG	GCACCAATAA
	TGGGGACGAA	TAGTGGGAT	TAAAGATACA	GTAGAAAGTA	TTTAAACTT	GCCAGGGGGC	AATAGTCTGA
	AAATAAGTAA	ATTGTGTCTA	TAGAATGGAA	GTACAGGCT	CTTTCTTTT	TCCCACAAG	ATCTGCTCCT
	TGAGCCCCTA	GAGACTTTTC	TGTCTGTAC	TGTTTCTTCA	TTCTCATCT	GCAGAGCCAG	CCCTGAGAAG
45	TGCAGACCAA	AGCAGGGGAA	GGCTCTGCAA	AGATGTACAA	ATGGAAGTCA	CCTTAATAAC	CTCTGACTGC
	TGCGCATAAT	ACAATTCACT	CAAAAGAGGG	GTAAACAAT	GGAACAGAAT	ACAGAGGCCA	GAAATAATG
	TGAACACTGA	CAACCATCTG	ATCTTTGACA	AAATCCACAA	AAACAAGCAA	TGGAGAAAGG	ACTCCCTATT
	CCATAATGGT	GCTGGGATAA	CTGTCTAGCT	ATATACAGAA	GATTGAACCT	GGGCCCTTCT	CTTACATCAT
	ATACAAAAAA	TAAATCAAGA	TGGAGTAAAG	ACTTAAATCT	AAAACCAAC	ACTATAAAAA	CCCTGGAAGA
50	TAGCCTGGGA	AATACCATTC	TGGACATAGG	ACCTGGCAAA	GACTTCTATG	CAAGACACCA	AAAGCAATAG
	CAACAAAAAC	CAAAATTGACT	AATGAAACTA	ATGAAACTCT	TTAGTTGTAC	AACAGATAGT	TTATCTGTAC
	AACAAAAATA	ACTATCAACA	GAGTAAACAA	CCTACAGAAT	GGAAAAATTT	TTTGCAAACT	ATGCATCTGA
	CAAAGGTCTA	ATAACAGAA	TCTATAAGGA	ATTTAAACAA	ATTTACAAGC	AAAAAAATGA	CCTCATTAAT
	AAGTGGGCAA	AGGACATGAA	CAGATGCTTT	TCAAAATAAG	ACATTACAC	ATCCAACAAC	CATATGAAAA
55	GATGTTTAAC	ATCACTAATC	ATTAGAGGAA	TACAAATCAA	AAGCATAATA	AGATACCATC	TAATACCAAT
	AGGAATGACT	ACTATTAATA	AGTCAGACAA	TAACAGATGC	TGGTGAAGGT	TGTGGAGAAA	AGGGAATGTT
	TATGCACTGT	TAGTGGGAAT	GTAAACTAGT	TCAGCCATTG	TGGAAGAGAG	TGTGGTGATT	CCTCAAAGAA
	TGTAAAACCG	AACAGCCTTT	CAATCCAGCA	ATCCCATTAT	TGGATATACA	CCAAAAGGAA	TAGAAATTTG
	TTTAC						

[illegible]

Table 1. Demographic characteristics of the study population	
Age (years)	Mean (SD)
Male	50.5 (10.5)
Female	51.5 (11.5)
Marital status	
Married	75.5%
Single	24.5%
Education level	
High school or above	65.5%
Below high school	34.5%
Occupation	
White collar	45.5%
Blue collar	54.5%
Income (USD/month)	
<1000	15.5%
1000-2000	35.5%
2000-3000	25.5%
>3000	23.5%
Health insurance	
Yes	85.5%
No	14.5%
Smoking status	
Smoker	25.5%
Non-smoker	74.5%
Alcohol consumption	
Yes	15.5%
No	84.5%
Family size	
1-2	45.5%
3-4	35.5%
5 or more	19.0%
Chronic diseases	
Hypertension	35.5%
Diabetes	15.5%
Heart disease	10.5%
Stroke	5.5%
Other	33.0%

5	CTTTTTTCCA	CTTCTTATG	GTTTATCTT	TCAATTTTTC	TCTAACTCT	TAAGTTGGGT	GTTTAATTTT
	TAGCTTGCTT	TGCTTTTTTA	GGATAAGCAT	TAAAACCTACA	AATTTTCCTT	GTTATTCTTT	TGCTGCACCC
	CAAATGTGTG	ATATTTCTAT	TGTCTAATTT	CTATTCAATT	AGAATACTTT	AAAGTTTCTT	TTTGGTTTTT
	AAAAACTAAC	TTT TAAATT	GACAAATAAA	AATTGTGTAT	ATTTATTGTG	CACAGCATAT	GGCTTTGAAA
	TATATGTACA	TTG TGAATG	GCTAAATTTA	GCTTATTAAT	GTATGCATTA	TCTCACATAC	TTATCATTTT
10	TTGTGGTGAG	AGCTATGTGA	CTTTTGAAC	TATGAGTTAT	TTAAATATTT	TTAAATTAT	AAGCATATTG
	GGATTTTAAG	TAA TTTACCT	TTTTATTATT	AACCTATAAC	AAGTAGAACA	GTTAACCTGT	ATGATTCTAC
	ATCATTTGAAA	TTTATTGACA	TTTGCTTCAT	AGTCTATTAT	ATGGTCTACT	TTTGTTCTATG	TTACATCTGT
	AGTAGAATTG	GCTAATAGTT	GAGTAAAGTA	CACATATGTC	TATGAAATCA	AGTGTAAATCC	AGAGAAAAAG
	AGAAATTTAC	TGA ATATATT	GTTCTAGGTG	CTATTATATG	TTGTCATGTT	TAATCCTCAC	CACAATTGTA
15	TGAGGCAGCC	ATAATTAATT	CCACTTTACA	CATGAGGAGC	CTGAGGGTTA	AAAAAAAAGC	TAGCTCTAC
	ATTTGTAAAG	AATGAAGCAA	AGATACAAAT	GAAGGCCAC	ATATCCTATA	ACTAGATATT	TAAGCATTTT
	AATTCAAGCT	TTAAAACTGC	TAAATAAAAT	GTGCTCCAAT	TTCTATATTG	ACAGACATAC	CTTCCTAATG
	AGCTGGGGTT	CGAATTTAG	AATCTTTGAT	GCTTCAGAGT	CCACACTGAA	ATGTGGAGGC	ACATAGTGAG
	TTGGTCCCCA	GCT TCAGTC	CACCCACCTT	CTCTTTACTA	AATCACCTTT	CACATACATG	TATGAAACCC
20	CCAGCCTCCA	AGTCCAAAAC	CTAAACAAAA	TGGGACACCC	TTGTGCATAC	ACAGAGACAC	AGCCCATCCT
	CAGGAAAAACC	TGG AAAAGTC	CATACAAGTT	CTGGAAGCAA	GCTTGGGACG	GTTTCAGTAG	TGTGGTCTAT
	AAGGGAGGCC	TCA GAAGACA	GGTTTTCTTA	ATTCTGTGAA	CTTCTCCAC	AGTAGAAAGG	GTGCTGGAGG
	AGGGTCAGAG	TGA GACTTC	TAAAGCATGG	GTCCTGAGTA	GGGGCCACTC	TTGCCCAAGT	CTAAGAAGGG
	TACTAGAATA	GCACACTACT	ACTAGATACT	AGAACCCAGA	TACAAGCACA	GGTCTTCTGA	AATTAATAAT
25	AATAATAACT	ATTACCATTA	TTATACCAGT	AGCTGTCATT	TATTTAGTGC	TTATTATTTG	CCAGTCACTG
	TTCTAAATCT	TTTACATGTA	TTATACAAC	GCCATATAAC	TGCCATATGA	GGGATGTACC	CTCATTGTCA
	CCATTTTACC	GATC AGAAAA	CTGGCATAAA	ACGTTTAAAT	AACCTGTCCA	AGTTACAGAG	CTTAGTGAAG
	CCACAATGTT	GCTCAATTTG	CTCTCAAACT	TCAAAGGGAT	GGGAAGGCAC	CCTAAGTCAT	AGAGTCTTTA
	AGAATCAGAG	CTAGAAGGAA	TCTTAGATGT	TATCTAGTCA	GCCTCCTCCC	ATTACAGTCC	AAGAGAAGAT
30	GGCCCTGAGT	TACTGTGAGC	TATTTTTGCA	TGTGAATTGC	AAGTGAATAT	ACATTCTACT	GAAGATAAAA
	GATATTTAAA	GATATCGCTG	GATATAGGAA	CAGTGGTTTT	AAATCTCTAG	GCTTTAACTT	TTCTCAGAAC
	AAGAAATCCT	TTTTGGTTTT	AATCTATATG	CACATCTGTA	TTTTTCTCAA	TTATCGGGTA	GTAAATATA
	ACTTTTCTTC	TGTAATATTT	TTAACTTTTA	ATGAGTGTTC	CTCATAATAG	AAAAGTTTGG	AAACCATTGC
	TATGGGTATA	TACTTTCTAA	AGGGATAGTA	ATTTCTCTAG	AATATTTCAT	TAATGCTCCA	GAAGTAATTA
35	GCACAATTTG	GCAATGCTGT	GCATCATCAA	CTATACATTC	TGCTGTTTTA	CTCCAATACC	ACATGAAACT
	GATTATACAG	TCA AAGCGA	GCCAGTGGA	GAGGCATTTT	TGGAGACTTC	CTGGTACATT	GAGACAGGGT
	CGGCCAGTCT	GCG TAGGGT	CTTGGTCAAA	ACTGCATTTT	TGAAACTAAA	CTCAGATTGC	TTTCTTTTAA
	GGGGTCAGAA	CTG ATTCAAA	TCTACATTTT	TAAAAGCCTT	AGATGTGGGG	CTTTTCCTAT	TCCCAGTCTC
	CGCTATTGGT	CTTGTGAAT	CCACAGGCCA	TTTGGCCACA	TCCTTGACTC	TCTCTTATAT	TAAGAATTAA
40	ACAGCTAAGT	TCA TGCAGAG	GAAATATAAC	AAAGGAGGGA	CTTTCCTACA	AGATCTTTGA	AAAATGGAAC
	ATTTGCATAA	GTCATATTTA	GCCGAACCTG	TTGTTTTATA	TTTTCTTTTC	TGAATACTTT	GTTACACCTC
	CTCCCAGCCA	ACCCCCCCCC	TCCCTGACCC	CAACTAGTCA	GAGACAAAAG	CCTTCACAAT	GGTTTACACT
	TGAACCTTCC	TGGCCCCACC	CTCATCATCA	CGCTGGAATA	ATTACATTCA	CTGACTGGTC	TCCCCTGCTT
	CCGTTTATCT	CCAC TCCTAA	ACCCTCTGAC	ACCTTAATCT	TCCCAGAATA	CCATTGTGAT	CCTGTTCCAC
45	TCTTGCTCAA	GTTT TCCCAG	AAACTAGAGT	ACAAACTTTA	TAAGCTTTAG	AGTTGAAAGC	CACTCTATCT
	CTTTTTCATC	CCCAGGTCTC	TGCCAAGGCA	GTATAACCTG	TCCAACATCT	CTAACTTCAA	TACCTTTGTC
	TTAGATACTA	GAC TCTCTC	CTGGTTTCTA	ATTAAACCTG	ATCTAGGATC	TAATTTTGCC	TCTGAATTCT
	GTTGCCCTTT	GCCAAGTGAT	CTCTTCCTCC	TCTGAGCCGC	AGCATCTCTG	AGCTTGCACA	CTTAGCATAG
	CCATAGCACA	CACAGCCTTA	GCTTGCAGTT	CAGGGTGTTT	ACCTTCCTCC	CCCTTCAGTA	TGCTGGATCC
50	CCAGGGATAG	GAA TCTGCCC	CTTAGTGTC	CATGGCCCTT	GGTAGTATGT	CTGCGACTCG	TACATTTTCA
	GCAAATGTTT	AAT TGGTTAA	TTGAAGACAA	CTGTCCCATG	CCTTAAGCCT	CTCTTTTTGC	TAAACATGCC
	TGTGTCCTTT	GTCATTGAAC	AACTATTTTG	ATCTATTTTC	TTCCTGACAT	AGGGGTCAGT	TCCGAGGATG
	CTGAAATCAA	GAGACATAGC	TTATTCTCTC	AAAATTGCTT	TCAAGAGTGA	TTTTGTTGTG	AATTGAGAAC
	TGGCTGCCTA	CTTTTGGACT	ACCCACTTCA	GCAAGAGTGT	TTGAAACCAA	ATCTATTCTA	AGTAATTTTT
55	TATTCCTTTT	TCTCTATGGC	ATTAGACACA	CAGCTCTTTT	AAACTACCTT	TCGTTATCTA	TTAAACAGAC
	ATTCAGTAAC	TCT TTAGACA	CTGTCTAGCT	ATATGAACCT	AGACAAACTA	ATATCTCTGA	GCTTCAGTTT
	CTTAAAAATT	AAA TTAGGA	CAATACCATT	TATGGCCGGG	GATTAATATG	TATGAGGAAT	GTAACCAGGA
	TGTCAGGTAC	CATC TCTCTA	AAATCCAGAT	AAAATGAATT	AAAAAATCTG	CGCCGAAACC	CTCTCTAAGA
	GTTTCTCAAAA	TTCTCAGAGA					



5	GGATTGGGAT	GCCACTAAG	ATAACTGGAT	GCCAAGATAA	GTTTAACCTA	ACAAACTTTA	TTATTATTAT
	TATTATTATT	ATTAGAGATA	GGTACTTATT	CTGTCACCCA	GACTGCAGTG	CAGGGATGCA	ATAATAGCTC
	ACTGCAGCCT	CAAAGTCCTG	AGTTCATGCA	ATCCTTCTGC	TTCAGCTCCC	TGAGTAGCTA	GGACTACAGG
	CATATGCTAC	TCTGCCCAGC	TACTTTTAAA	AAAATAATTA	GGGATGGGGT	CTTGTTGTAT	TGCCCAGGCT
	CGTCTCAAAC	TTCTGGTTTC	AAGCAATCCT	CCTGCCTTTT	ACCTCCCTAA	TTGTTGGAGT	TACAGGCATG
10	AGCCACAGCA	CTCAACCAAG	ATTTAAAAAC	TTTTAAAAAG	AATCACATTA	CTTACTGTTA	TCATCATTAT
	GGTTACTACC	AGTCTTAAAA	CAATTGGTAT	TGAAAAACCC	ACTACCAGAT	CAAGCTTCAA	ACCAAGATGT
	CAAGTAAATA	TTAATGTAGC	ACCTCTGAGC	CCAAGCTGCG	AGGTATACAC	CCAGATGGCC	TGAAGCAAGT
	GAAGAATCAC	AAAAGAACTG	AAAATGGCCG	GTTCCTGCCT	TAAGTGATGA	CATTCCACCA	TTGTGATTTG
	TTCTGCCCC	ACCTTGACTG	AGGGATTAAC	CTTGTGAAAT	TCCTTCCCCT	GGCTCAGAAG	CTCCCCGACT
15	GAGTACCTTG	TGACCCCCAC	CCCTGCCCAC	AAGTGAAAAA	CCCCCTTTGA	CTGTAATTTT	CCACTACCCA
	CCCAATCCT	ATAAACACAGC	CTCACCCCTA	TCTCCCTTCG	CTGACTCTCT	TTTCAGACTC	AACCTGCCTG
	CACCTAGGTG	ATTCAAAAGC	TTTATTGCTC	ACACAAAGCC	TGTTTGGTGG	TCTCTTCACA	CAGACCATGT
	GACATTGGT	GCCGTAATCT	AGATCGGGGA	ACCTCCCTTG	GGAGATCAGT	CCCCGTGCAT	CCTGCTCTTT
	GCTCCATGAG	AAAGATCCAC	CTATGACCTC	TGGTCTCTAG	ACCAACCAGC	CCAAGGAACA	TCTCACCAAT
20	TTTAAATTGG	GTAAGTGGCC	TCITTTTACT	CTCTTCTCCA	GCCCTCTCCA	CTATCCCTCA	ACATCTTTCT
	CCTTTCAATC	TTGACACCAC	GCTTCAATCT	CTCCCTTCCC	TTAATTTTCA	TTCTTTTCTT	TTTCTGGTAG
	AGACAGAGGA	AACGTGTTCT	ATCTGTGAAC	CCAAAACTCC	AGCACTGGTC	ATGGACTTGG	AAAGACAGTC
	TTCCCTTGAT	GTTTAATCAC	TGCAGGGATG	CCTGCCTGAT	TATTCACCCA	CATTTTCAGAG	CTGTCTGATC
	ACTGCAGGGA	CGCCTGCCTG	GATCCTTCAC	CTTAGTGGCA	AGTACCACTT	TGCCTGGGTG	GCAAGCACCA
25	CCTCTCCTGG	GGGCAAGCA	CCACCTCTCC	TGGGGGGCAA	GTACCCCCCA	ACCCCTTCTC	TCCATGTCTC
	CACCTCTCT	TCTCTGGGCT	TGCTCCTTTC	ACTATGGGCC	ACCTTCCACC	CTCCATTCTC	CCCTTTTCTC
	CCTTAGCCTG	TGTTCTCAAG	AACTTAAAC	CTCTTCAACT	CACGTCTGAC	CTAAAACTTA	AATGCCTTAC
	TTTCTTCTGC	AATAACGCTT	GACCCCAATA	CAAACTCAAC	AATGGTTCCA	AATAGCTCGA	AAACGGCATT
	TTCAATTTCT	CCATCCACAC	AGATCTAAAT	AATTCTTGTC	GTAAAAATGA	CAAAATGGTCT	GAGGTGCGCTG
30	ACATCTGGGC	ATTCTTTTAC	ACGTGGTCC	CTCCCTAGTC	TCTGTTCCCA	ATGCAACTCA	TCCCAAATCC
	TCCTTCTTTC	CCTCTGCCT	GTCCCCTCAG	TCCCAACCCC	AAGTGTCTGT	GAGTCTTTCC	AATCTTCTCT
	TTCTACTGAC	CCAATCTGACC	TCTCCCTCT	TCCCCAGACT	GCTCTCTCTC	AGGTCTGCTC	CCGCCAGGCT
	GAATCAGGCT	CCAATCTTTC	CTCAGCGTCC	GCTCTCTCAC	CCTATAATCC	TTCTATCACC	TCCCCTCTCT
	ACACCTGGTC	CAGCTTACAG	TTTCAATTCT	TGACTAGGCC	TCCCCCACTT	GCCCAACAAT	TTCTCTTAA
35	AGAGGTGGCT	GGAGCTAAAG	GCATAGTCAA	GGTTAATGCT	CTTTTTTCTT	TATCCAACTT	CTCCCATCTA
	AGTTAGTATT	TAGCTTTTTT	TTTATCAAAT	ATGAATACCT	AGCCCACTCC	ATGGCTCATT	TGGCAGCAAC
	TCCTAGACAT	TTTACAGCCT	TGGACCCAGA	GGGGCCAGAA	GGTCATCTTA	TTCTCAATAT	GCATTTTATT
	ACCAATCCA	CTCCCAACAT	TAGAAAAAGC	TCCAAAAGTT	AGACTCCGGC	CCTCAAACCC	CACAACAGGA
	CTTAATTAAC	CTTGCTTCA	AAGCGTACAA	TAATAGAGTA	GAGGCAGCCA	AGTAGCAACA	TATTTCTGAG
40	TTGCAATTCC	TTGCCTCCAC	TGTGAGAGAA	ACCCCAAGCCA	CATCTCCAGT	ACACAAGAAC	TTCAAAATGC
	CTAAGCCACA	GTGGTCAAGC	ATTCTTACAG	GACCTCTCTC	ATCAGGATCT	TGCTTCAAGT	GCCAGAAATC
	TGGCCTACTG	GCCAGGAAT	GCCCTCAGCC	TGGGATTCTT	CCTAAGCCAT	GTTCATCTGT	TGTGGGACCC
	CACTGGAAAT	CGGACTGTCC	AACCTGCCCA	GCACCACTCT	CCAGAGCCCC	TGGAATCTCT	GCCCAAGGCT
	CTCTGACTGA	CTCCTTCCCA	GATCTTCTTG	GCTTAGTGGC	TGAAGACTGA	TGCTGCCTGA	TGCCTCAGA
45	AGCCTCCTGG	ACCATCACAG	ATGCTTTTGG	TAAGTCTTAC	AGTGGAGGGT	AAGTCCGTCC	CCTTCTTAAT
	CAATGCAGAG	GCTACCCACT	CCACATTACC	TTCTCTTCAA	GGTCTGTTT	CCCTTGCTTT	CATAAATGTT
	GTGGGTATTG	ATGCCAGGC	TTCTAAACCC	CTTAAAACTC	CCCAACTCTG	GTGCCGATT	AAACAACATT
	CTTTTATACA	CTTCTTTTAA	GTTATCCCCA	CCTGCCCAGT	TCCTTATTA	GGCTGAGACA	TTTAAACCAA
	ATTATTGCT	TCCCTGACTA	TTCTGGGACT	ACAGCCACAT	CTCATTGCTG	CCCTTCTTCC	CAACCCAAAA
50	GTGGCAACTC	CTTTGCCACT	TCTCTCATAT	TCCCCCTACC	TTAAGCCCA	GGATGGGAC	ACCTCTACTC
	CCTCCCTGGC	AACCAATCAC	ACCCTCATTA	CTATCCCATT	AAAACCTAAT	CACCCCTTACC	TGGGTACAAG
	CCAGTATCCC	ATCCACAAC	AGGCTTTAAA	GGGATTAAAG	CCTGTTATCA	CTTGCTGTT	ACAACATGTC
	CTTTTAAAGC	CTGTAAGCTC	TCTTACAAT	TCCCCCATTT	TACCTGTCCA	AAAAGTGGAC	ATGCCTTACA
	GGTTAGTTCA	GGATCTGTGC	CTTATCAACC	AAATTGTCTT	GCCTATCCAC	GCCATGGTGC	CAAAACCCATA
55	TACTCTCTTA	TCCTCAATAC	CTCCCTCCAA	AACCCCTCCA	TAACCCCTAT	TCTGTTCTGG	ATCTCAAAAC
	ATGCTTTTCT	TACTATTCTAT	TTGACCCCTT	CTATCCAGCC	TCTCTTCACT	TTCACTTGGA	CTGACCCCTGA
	CACCCATCAG	CCTACGCAAC	TTACCTGGGC	TGTACTGGCG	CAAGGCTTCA	TGGACAGCCC	CCATTACCTC
	AGTCAACCCA	AATTTCTTCT	TCATCCATTA	CCTATCCAGG	CATAGTTCTT	CATGAAAACA	CAGTGTCTCT
	CCCTGCTGAT	CATGTCCAGC	TAATCTCCCC	AACCCAGGA	CTGGCAAATT	GACTTTACTC	ACATGCCCCA
60	AATCAGGACA	CTAAGTACC	TCTTGGTCTG	GGTAGACACT	TTCACTGGAT	AGGTAGATGC	CTTTCCACAA
	GGGCCTAAGA	AGGCACCCGT	GGTCATTTCT	TCCCTTCTGT	CAGACATAAT	TCCTTGGTTT	GGCCTTCCCA
	CCTCTATACA	GTCTATATAAT	GGACAAGCCT	TTACTAGTCA	AAGCAGCAA	GCAGTTTCTC	AGGCTCTTGG
	TATTCAGTGA	AACCTTCATA	CCCCTTACCG	TCTCTAATCC	TTAGGAAAGG	TAGAACTGAT	TAATGGTCTT
	TTAAAAACAC	ACCTCACCAA	GCTCAGCCTC	CAACTTAAAA	AGGACTGGAC	AGTACTTTTA	CCACTTGCCA
	TTCTCAGAAT	TCGGGCCTGT	CCTCGAAATG	CTACAAGGTA	CAGGCCATTT	AAGATTCTGT	ATGGACGCTC
	CTTTTTATTA	GGCCCTCAGTC	TCATTCCAGA	CACCAGCCCA	ACTTGAACCTG	TGCCCAAAAA	ACTTGTCTAT



5	CTCAACAATCT	TCTGCTAGT	CATACTCCTA	TTCAACATTTC	TCAACTACTT	GTAATGCCCC	TGCCCTTTTT
	TACAGTGCTG	ATTATACTT	TTCTCCAAA	CCATCATAAC	TGATATCTCC	TGGTTTTACC	TCAAACCGCC
	ACCCTTAAGT	CTCTCTTAAA	GTGGATAGAA	GATCTTCAGT	GACAAGGTAC	ACTCCAATAC	TTTACCCTA
	ATAAAAGCCCT	ATTCTTTACT	TTTATATTCA	CTCTTATTCT	TGTTCCCAT	CTTATGCCAC	TCTCTACCTC
	TCCCAGAGT	TCTCACCAC	ACTATCAATC	TCACTCACTC	TCTCTAGCC	ATTTCTAATC	CTTCTTTAAC
10	AAACCAATTGC	TGGCTTTACA	ATTTCCTTT	CCTCCAAAAT	CACCGAGTCC	CAATTTTACT	CAGTGCTAAA
	AAAGGGGACT	CTGCATATTT	TTAAATGAAG	AGTGTGTGTT	TTACCTAAAT	CAACTGTGCC	TGGTATATGA
	CAACATAAAA	AAAATCAAG	GATAGAGCCA	AAAACCTTGC	CAACCAAGCA	AGTAATTATG	CTGAACCCCC
	TGGGGCACTC	TAAATTAGATG	TCCTGGGTTC	TCCCATTCT	TAATCCTTTA	ATACCTGTTT	TTCTCCTTCT
	CTTATGCAGA	CCTGTGTCT	TCCATTAGT	TTCTCAATTTC	ATACAAAACC	GTATCCAGGC	CATACCAAT
15	CATTCTATAC	GACAATGTT	TTAAGGGAGG	AGACCACCCC	TCATATTGTC	TTATGCCCAA	TTTCTGCCTC
	CAAAAGAAAGA	AGTAAAAATG	AAAAGGCAGA	AATGAAATCC	ACAGGCAGAC	AGCCTGATGC	CACACCCTGG
	GCCTGGTGGT	TAAAGTCAAC	CCCTGACCTA	ATCAGTTATG	TTATCTATAG	ATTACAGACA	TTGTATGGAA
	AAGCACTGTG	AAAATCCCTG	TCTTGTCTG	TTCTCTAAT	TACCACTACA	CGCAGCCCCT	AGTCATGTAC
	CCCCTGCTTG	CTCCCCCTGC	TTGCTCAATC	AGTCATGACC	CTCTACGCA	GACCCCTTA	GAGTTGTAAG
20	CCCTTAAGAG	GAAAGGAAT	TGTTCACTCG	GAGAGCTCGG	TTTTTGAGAC	ATGAGTCTTG	CCATGCTCC
	CAGCTGAATA	AAGCCCTTCC	TCTTTAACT	CAGTGTCTGA	GGGGTTTTGT	CTGTGTCTTG	TCCTGCTACA
	GTTTCATCTA	ACAACCCAT	AATATCACCC	CTTACCACAA	AATCTTCCTT	CAGCTTAATC	TCTCCCACTC
	TAGGTTCTCA	CGCATCCCTC	AATCTGTCTC	GAAGCAGCCC	TGAGAAACAT	CGCCCGTTAT	CTCTCCACAC
	CACCCCCAAA	AATTTTCACT	GCCCCAACAC	TTTACCATA	TTTCGTTTTA	TTTTCTTAT	TAATATAAGA
25	AGATAGAAAT	GTCAGGCCTC	TGAGCCCCAG	CCTGCACGTA	TACATCCACA	TGGCCGTGAAG	CAAGTGAAGA
	ATCACAAAAG	AAGTGAAGAT	GGCTGGTTCC	TGCCTTAACT	GATGATATTC	CACCATTGTG	ATTTGTTCTC
	GCGCCACCTT	GACTGAGGGA	TTAACCTTGT	GAAATTCCTT	CCCCTGGCTC	AGAAGCTCCC	CCACTGAGCA
	CCTTGTGACC	CCCACCCCTA	CCCACAAGTG	AAAAACCCCC	TTTGACTGTA	ATTTTCCACT	ACCCACCCAA
	ATCCTATAAA	ACAGCCCCAC	CCCATCTCCC	TTTGCTGACT	CTATTTTGG	ACTCAGCCCA	CCTGCACCCA
30	GGTGATTCAA	AAGTTCATT	GCTCACACAA	AGCCTGTTTG	GTGGTCTCTT	CACACCGACA	CGCGTGATAA
	TTATTATATT	ACTTTTAACT	AAAACCTTT	CAGAGTCTCG	GAGGAAGGCG	TGTATATATC	TCATAAAATG
	TTGGGGCCCA	CTGCATCAGA	CAAGGCCACA	AAGGCCAAAG	CGGAAGTAAAG	ATCTCATTAT	TTCTCTAAT
	AATTTCCCTG	TCCTTTGTCA	TAAATGGTGG	GTAGGCTGTT	ATGGTGATGG	CAGATTTTCT	TTCCATAAAA
	TGTCCATAAT	AGGACATTTG	AACAGAAAGG	AAAAATCAAA	TTGCTGAAGT	TGAAAGAGGG	CAATGCAAAG
35	AACTTTGGAG	AAACAACTGT	ACAGAGAAAGT	CAACTGGCAG	ATGGGAGGAA	GTTTAAAGGG	AAAAATATAG
	ATGTTCTAAG	AATACATTTA	TTCATTTTCC	ACAGTGCAAT	TTGGACAAGA	AGCCTCTTTC	TTGCTCTTT
	CTATTCTCAT	TAAATCATTA	GAGCTCAAGC	AATCCTTCTG	CCTCAGCTTC	CCGACTAGCT	AGGACTACAG
	GTATGTGCTA	CTATGCCCAG	CTAATTTTTT	AAAAATTAGA	TTTTAATTTG	GTGAACATAT	TCTGTAGGAA
	ACTACAATAA	TACAGCCCAG	GCACATTGAT	CTTGGGTGAA	CAAATCAGAA	GGAATGAATA	ATTCGTGTGT
40	CCTGGGACTC	TGACAAATTC	ATGAACTTGG	TACTCTGAGT	AAAGCATAGG	AGGAGTTATT	TCATAAAATG
	TGGAGCACAA	TCATGTGACA	AAGATAATGG	GATCCCCATT	TCATAAATAA	ATCTGAAGTT	CAGAGAGAGT
	AACAACCTGGC	CAGGGTCACA	TCACGGAGAC	AGAGGCAGGG	TTCCCACTGA	TGCTCTGAC	TCCCTGTCCC
	AGGCCCTTCC	TCCTCCCGCA	AGCAGAAAGT	CAGGGGGCAG	AGCTGACCTC	GTGCAGTGAA	AATCTGAGGG
	CTGAGTTCTC	ATTGGAACAC	AAGTGAAGTA	CTTCCTGGCT	TCTAATCTCA	GGATAAGGAC	TCAGAGCTCC
45	ATCTGTTCCA	GCCTTAGGAT	AAGAACCAGA	ATCTTACACC	ATGAAAGCAT	GAAAGGTAAAG	ATTTGAGTGA
	GGAAAAAAA	AAAAAAGTCT	TGTGTTTCAG	ATTCAGTTCA	CAAAGCAGTT	TCATACTTAA	GGTACCATCA
	CAATAACCCT	GTGCGGTAAG	CAAGGCCAAAT	TTCATTCTTG	TTTTATGGGC	ATAGGAAGTA	AGTCTCAGGG
	AGGTTAAGAC	CAAGGTTTCT	GGAGAATTTT	ATATTATGAA	TCTTGATTTA	TGGGATTACT	ATTATGTAAT
	TCCTAAGATC	ATAAGGAAT	CCTAGAGCTT	GAATATAGAA	CTTTATTTT	AAATCTATAT	ACATCATAAT
50	TACAAGGAGT	AGTGTCATT	TGGGTTCCCT	GGCCCTGATG	TGTTAGTGGA	ATAAACATTT	TTGTCAGGGT
	TGCCATGTGT	TGCTGTGCAC	GTGTGCTACTG	TACACCTCCA	GGGATGTAC	CCTAAACACC	ATGAATGTGA
	TTTGACATC	CAACATTTAC	AGTGTACTAT	AGGGAGAAATC	TTTTGCAACA	GCTTTTGCTA	TAATACAGAA
	TCTGAGATGT	CTTTGAGAAA	GAAAAGTGTA	ATCATTACCA	AAAAATTATT	CTCATAATGT	GTGCAAAATTT
	GTATGAAATC	TATTTGGCC	ATGGGACAAG	GAGGTATTTT	CAGCTAGCTT	CTGAAAGGGC	TCTATTCTCT
55	CATAAGAATT	CAGCTGTTGA	CATTAGGTGA	TATCTGCCCA	GGTCATCAGA	TGCCATAGAG	AAAGAGGGTT
	TGCTGAAACT	TATATCAGAC	GTGCACGTGA	TGCTCTTTCT	GATTTATTTG	AACATTCATT	TATTGAGTGT
	CAAGTAATGC	ACTAGATACT	CCAGGGATCT	GACACAAACT	CTGCCCTGAA	GGAGCATGTA	ATCTCAGCTG
	GGAGAAAAACA	AAACATATGA	TAATTTCAAA	ATAACAAACT	AGGCAAACTA	GTTAACACTT	AAAAAGCAGG
	CTTTATTCAA	ATGCAAAATT	GCATGTTACA	GGGTAACCTT	TCAGATAAGAA	GCCAGGAAGA	GGAG



5	TTTCAACTTG	AGCA ² GGACCC	CATTACTTCA	CTGGAGTTAG	AAAGAAAGGA	GAGCGTAGAC	TTTTTGAACT
	TTCTATAAGA	GTG ¹ IACCTCC	ACAGTATACA	GAAGACGACG	TGAAATTTGA	TCTGCAAGAA	AACTGAGTCC
	ATATTCACAT	ATG ¹ IATCAAA	TTTGCACITC	ATTTAGAAGT	GTCTGTCA ¹ TC	AAGTACAGCA	CTGAATTGAA
	ACTGAAAAACA	AGA ¹ TC ¹ CAAGA	AAGAGCAAAG	TCAGCCATCT	TTATATTCCA	CATGAATCCT	TTCCCTTTAT
	GGTCTTATTT	GTTT ¹ TCCTC	AGAAAAAGACA	AAAAAGCTGAG	CTGTATAAAC	ACCTGTGGGC	TGGGGGTTGA
10	GGGATAAAAT	AGGGGCGAAA	TGGAAGCTGA	AGGAACIGTT	GGTCAGGTAG	AAATCTTCCC	AGATGCACTG
	AAGGAAACAC	ACT ¹ TCATGT	TGACGTAGGA	GGTGCCACCA	CACAAAACGT	TTCATGGAAG	GATTTAAAGG
	ATCTCATGAT	TTTTAGTATT	CCAAGAATT	TCTTTACCA	AGGGCGATTT	AATATGGGTG	ATTCATACTG
	AAAGAAAAAC	AAA ¹ AGATAAT	AAGAGTTTAA	AAATTGCAAA	ACTTGGAGTG	TTAGTAGTAA	AGGTAATAAT
	TCATTAGAGA	TGAC ¹ AAGAGG	AGCAAGGAAA	TGCTTTCAGC	TGGAAATCTC	AGACAAGAGG	CCAGGCTTTA
15	GGAACCTCTG	AAGATGAACA	AATGTAAGCA	AACCCTAGTA	GCAGCACTTC	TCAGATTTTC	ATGTGCTTAC
	CACTCAGAGA	TGGT ¹ GTTAAA	ATGCAGACTC	TGATTCAAGTA	GGTCTGAGTG	GAGCCTGAGA	TTCTGCACCC
	CTAACAAGCT	CTT ¹ IAGTGAT	GCTTATGCCA	CTGGCGCACA	GACCCCACTT	GGAGAAATTT	TTGTGGTGCA
	TACGGTCTTT	GTCCICAGAT	CTAATGAGTC	TGAAGGACAG	TGTAGATTGA	TTTTTTAAAT	TTATGTTTAT
	TTTAATTTAA	TTTAATTTAA	TTTATTTATT	TATTTATTTT	TGAGATGGAG	TCTCACTCTG	TTGCCAGCTG
20	CGGAGTGCAG	TGGCACGGAG	GCAGCTCATG	CACCAACCGC	CTCCTGGGTT	CACGCGATT	TTCCGCCTCA
	ACTTCCTGAG	TAGC ¹ TGGGAA	TACAGGCACG	TGCCAGCACA	CCCAGCTAAT	TTTTGTATTT	TTAGTAGAGA
	TGGGGTTTCA	CCAC ¹ ATTGGC	CAAGCTAATC	TCAAACCTCT	GACCTCATGA	TCCACCTGCC	ACGGCCTCCG
	AAAGTGCTGG	GATT ¹ ACAGGC	GTGAGCCACC	GAGCCAGCT	GTAGATTGAT	TTTGAGCAGT	GGAAAGTCAA
	GGAATTAGAA	GGC ¹ ATGCTTA	AATGGAAAGT	GAAATTGGAG	AAAATTTAAA	CTCATGAAAT	AGTGGTGGTT
25	ATAAACTCGT	GAT ¹ A ¹ AATTAT	ATCCTGGGAT	ATAATTTAAT	GAGATGGTAA	CACATTTAGT	TTAAAGAAAT
	AAGTGACACT	TTTT ¹ TGTGT	GACACAAC ¹ TG	TCTTATCTT	GGAAAGGACA	AGGAGAGAAT	GAAATATGGT
	ATGTCTTCAC	AGCACCTTTC	AAAGGGAGAA	CCAGATTCTG	AGGAGCTGGT	CTCATGTATG	ACTGT ¹ CAGGG
	TAAACCA ¹ CAG	TTCAGCAGCT	GCAAATGTGC	TTGCCAAAA	AGAGACAAAA	AAATGTTTCT	GAAAAACAAA
	TTTCACATAT	GCCC ¹ TCCTCT	GAGGT ¹ TGGCA	TCATATCTTC	CTGTGTATCT	TGGGTGTAGC	TTCTATCCTG
30	CCAGAATTTA	GACAGTAGAA	ACCAAATGAG	GTGATAAACA	GAGTCATTTT	GCAGAAGAGT	CAAAATAACC
	CAGCAAGAAA	TGA ¹ A ¹ ACCACA	AATGCCCAAG	GAGTCATTCA	TTCACCATTC	AAAAGCTAAT	AGAAATGAAC
	ACAAACTACT	ATGA ¹ AAATTC	ACCCAAGAAC	TTAAAAAAA	AAAAAAAGGC	TCATGGTGTT	TAGTGTGATA
	GTATTCATTT	TACCTTTGAC	TTGTTCTAAA	AACACACCAT	ACTTCTACCC	CACCC ¹ TCCT	CAGTGCCGTC
	ACACAATGGT	TTCAGTGTGA	AAAAAA ¹ AAC	CACGTTACTG	GAAAAGGAGG	GTGCCTGGGA	CTTGCCACTC
35	TAAGCTGGTA	GTCAAGGGTC	TTGAGTTCTA	AAAGCATACG	CGTTAAGAGC	ATGATTCCTG	GATCCAAATG
	AGTATGGATC	TCAGCATTGC	CATTTATTGT	GACCTCAGGC	TATTTTATTT	CTCTGTGCCT	GTTTCTTTAT
	CAGTAATGAA	GATG ¹ TTCATA	GACCC ¹ TTCTC	CCACAGACTT	AAAGGCATAT	TTCATGATTT	AAGACATGTA
	AACCATT ¹ CAT	AAC ¹ GTATAC	AACATGGAAT	TAATATTTGA	TAAAGGTTTA	TGATTATTGT	AACTAACTCT
	GTCACTTGCT	CAAGGCCTAT	AGAAAAC ¹ TTA	CTTAATTAGT	TCAACTACAA	AAAGAGTTTG	AATGTGATAT
40	CCACCAAGAT	CAT ¹ A ¹ TT ¹ CAGA	CCTAGAATTC	TGTGATTCTT	ATGAATTAAT	ACAGCCTTGG	TCAATAAATG
	AGAGCTGGGC	AAA ¹ A ¹ ATCTCT	TCTTTGCTAG	GCCTTTCTAG	ACCATCTGGT	GAAGCATTC	AGACTTATGT
	TATTGGGGCC	AGC ¹ TTCTTT	TCCAAC ¹ TTCA	ACTCCACAAC	TCCTCAATAA	GCCATGGGCT	CAAGAAAGTT
	CTGCTCAGTG	GCCC ¹ CTGAAA	AATGCTTTCA	TAGTCTCACT	ACCATAACCAC	TGCTTACACA	ATTTCTTTCC
	TACAGACTGC	CTTC ¹ CTTTCC	TGCTTTTCTC	CATATACCTA	AATCCTATCT	ATTCTTCATA	AGCAACCTTC
45	TTTATAACAT	TTTCTATAAC	CACCAAGCCA	AATGACCTTT	TCCTTCTTAA	ATATAGCACC	CATTGGCCAT
	TACCATGCTC	TGCC ¹ TTGTAT	TTTTCTGATT	TTTTCTTTTC	TATATTCCTG	TCTTAACTCC	CCAGCTAGGT
	AATAATTTTC	CTGA ¹ AATCAG	GGACCAGGCT	GACTCCTCTT	GCTGTCTCAA	GAAAGCTTAG	CAGTTTCCAA
	CACAAAAATG	TTCAATAAAAC	AACTATTAAT	TGACTGATTA	TAAAAAATCA	GTGAACCATT	AAACTTAATA
	TAGCAAA ¹ TTG	CTTAGCATGG	TAATATGCTT	TTTGCTAATA	TTCTTCCAGC	CAGTCTCTCC	TCCTGTGCCT
50	CAAGGACATC	TTAAAA ¹ AAAA	AAAA ¹ CTAGTT	TGATCTGACT	CCATCTAGTG	GCAATTA ¹ AAA	CAGGTGGTTC
	CGGTAGCCAG	AAA ¹ A ¹ CAGCTC	TGGGTAGATT	GTGCCAGAAA	ATACTTTCAC	TCAGTAGGTG	CGAGTTTGAA
	AGAAATCTTC	ACATCTGTGG	GTTTCCTGCC	ACAGACATAG	GGAGACCAGC	CCAGAGAAAG	AAGCCTTTCC
	TCACTAGACT	CCAT ¹ TCGAC	TAGTAAAGAG	AAGACAGAGT	AATTA ¹ AAAAAG	AATA ¹ AAAAAGA	ACCTCCACTG
	ATCGTACATC	CTCATCCAGT	TACCCCTGCC	CCA ¹ CTCTCC	TTCACAGCCA	AACATTTTAA	AAGAGATG

5	CTTAGTGAT	ATCC CAAAAG	ACCTCAAGAT	AAAGCCCAT	TCACATGGCT	TATACATTAG	TTTATGATCT
	GGCTTCTGGT	GCC CATTMT	TCCCCACTTT	TTCCTTTGCA	TTCTAAGCAA	TGGCCCATAC	TAAGTTTGTG
	ATTGGTAGGA	TGG TGGCCA	AACCAGCATC	CAATCCCTTC	AGAAATCATC	TCACCTTCATT	TCTAGCATTT
	TAAAGGAAGC	TCA GTTGTC	AGCTGGGTAC	TGAATATGTC	ACCAAAGTCC	TCCTTTCATA	GTTTATTTTA
	CTTAAACTCT	CCTTCCTAAA	ATTCCAGAGC	AAGTCACTAA	ACCCTAGATA	CTGAGAAATA	TTTTTCCATC
10	TTCATTCTCT	CCAC GTGGGC	CATCAACTTT	CACATGTCTG	CATCTCCTCC	CACTGTGCTA	TTTCTCCAGT
	AGAAGAAATT	TGAGCTTCAA	GACCAAACTG	AAAAATACTT	GCCTCCTTGG	GGAAGCTGTA	GGTAGAATTC
	ATGCTCCCTA	TCTT TCCCAC	ATTTCTGAAG	GACAATGCCT	GTTAGAGCAA	TTGAATGCAA	ATAGTCAATT
	GAATAAGCAT	TTA TCATTT	CTCAATAAGT	GCTTGTTCAA	TTGAATATTT	CTTAAATAAT	ATATTTAAGA
	ACAAGAAGAA	CAC ACCACAA	TGTTTTTAAC	CCTCAGAAAA	AATTCTGAGG	TAATCAGAAA	AATCTCCCTT
15	TACATAAACT	GCCCTTTTCT	AATAGGGATT	ACTTGTTCTG	TCATTTCATT	ATTAGCTCC	ACTAGCACC
	AAAAGCACAG	CTC TGAAGG	AAGCTAGTAG	ATTTATCACC	TTATCTGGTC	ATTGGATGA	GGACCCAGG
	TAAATAAACT	ACT TGGGGT	TAATGTGTCT	AGCTAGAGCA	GGAAGTAACT	TAAGGAAGTA	GAGAATGAAT
	CAGCAGAGT	GGAACTCTCT	CGCCACTAAT	AAAACCTACC	TTCTCTTGGA	TTTCTTGCCT	GAAAAAGAA
	AATAGAGAAA	AGG TATTAG	AAAAATTAGA	CAATTTAAAG	TTTTTCAAGT	AAGGGAGAA	GAAGACTCCC
20	ACTCTCAAAA	CTG TCTTTG	AAGTATATTA	GGTATTTGTT	AGGTGAGACC	TATCTGTGTC	AAAGGAGATT
	TGAGGAACTG	GCTT AATAAA	CAGTGGTAGA	CACATAATACA	GAACAGACAT	TTTGATGCAG	ATGCCTCTG
	AGGTTCCATT	CCATTCTCCG	TGCTACTCAA	GAAGACAGAA	TTTGCTAAATT	GCCTGGTGGC	AAGACCCAAT
	ATGTCCATT	AAG TGTATT	CCCTTCCCAA	TCTGCCATCT	CATCCTACCT	GCAGATTCTT	CCCTTGAGGG
	ACAGCTGCTA	ATA TGTAAA	ACTATGTGCC	ATTACAGCTC	ACAGCATCAT	CTCTATGAGA	ATCCACAAGA
25	GAATTTCACT	TTGC TCTTGT	TGGTAGGAAT	TGTGCAGCCT	CATCTGAGTA	ACTAATGTGT	TTTTATCTTA
	CAAACACAAG	GAA TATCACA	TGGTCTCTCT	TTGACTGGCT	GTAAGGAAAC	TCAGAGCTAG	ATCTGAGACC
	CTCTCTCACT	AAGTATATA	AACTTTGTGA	CATACATTTT	TGTGCCATAA	CTCAACCTT	GGTTCCAAAT
	GATTTTTGTA	CCCTAAGTTT	AAATTTGGCT	TTCTTTTTTT	TTTTTTTGTA	CTCAATAAAA	CATCAAGCTC
	ATTTATTATT	GCGA AGAGCG	AAACAACAAA	GCTTCCACAG	CGTGGAAGGG	GACCCGAGTG	GGTTGCCCAA
30	ATTGGCTTCT	TTTTCTTACT	TTTTAATTAA	TTTTAATTTG	CTATACTGAA	CACATTTTGT	ACTGTTCTCA
	CATTCTTTTT	GAAA AAAGCA	GAATATAAAT	AAGTAGATAA	CTTAAAAAAA	ACTCTTTGAG	CAGAAAGAAT
	CATTTGGGAG	GCA TATATT	TCAGTGGCTG	TAAAGTGGCA	TTCTAGAATC	ATCCTACCCA	GGTGAAAGCC
	CTATTTTGCC	ACCTGAGTGT	TAGTGTGTAT	TTGAACAGCT	ACTTTCTTTT	CTAAACTACA	ATTTCTTCAT
	CTGTTAAAGA	GGC ATAATA	TGTATATCAT	CTCATTTGGT	TGATAAAAATA	AAATATTTCC	AAGTATTTAG
35	TTCAGGTCTCT	AGCA CTGAGA	CAGTGTGCTA	TTACTGTTTT	AATCCTTTAA	AGTATTTAAG	ACTACTATTT
	GAAATCTTTT	CTTCTAAAAT	TCAGCCTGCT	GATGACCAAG	TGCACCTTGA	CAGGGGGAAT	CAAACTCTGA
	TTAATTTTCT	ATTCTGGTTA	GCTTCACATA	AATATTTTTT	TTAGGGATGA	TGAACCTAAC	AGCAATAGAT
	GAGTAAGAAT	CTG TCTCTAC	TGAGAGAGTT	TCATTTTGAA	GAAAAAGGAA	CTAAGGGGGC	ATGTGTTCTG
	TTTCATGCCC	TGGTCTAACC	CTGTGTGTTG	GTTCTGGTGG	GAAATTCTTC	CAACCGAGGA	AAAAACCACT
40	TCACAAATCT	GAAGACCACT	GATTTTAGAA	GATGTATCTG	GACTGGAGTC	TAATCTCTGA	CTCTGGGTCC
	TGCTGATATG	GTA TTTTGA	GATTTGGCCT	AAAAACATCAT	TGCCCTGGTT	TCCTTATTTA	CCAAACAGGG
	CCAATGGTAG	TGACTAATCA	GAAAATGATA	ATGCTGTGGT	CACAAAATGT	GTCTAGATGA	GCCCATGCAC
	AAGACACAT	GTT TCTGGAA	CTGTTCTCTA	TTCCTTTCTC	AAAAGAAAGG	AGGGAAAGTC	TCCATACTAA
	GACTACTAGG	GCAC GGGACA	AAGTGCTAGA	GTCAGAAGAT	TCATCTGAGG	ACAGAAGAAT	AGGGGTGAAG
45	GCTCTAGTCA	CTTCTATTGG	TACCATGCTC	TAAATAGTTA	CCTGTGCCCT	TTTTCTAACT	ATTAGAACCC
	AAAAAGCCTA	TAA ATTCTCT	CTCTCTCTCT	CTCTCTCTCT	GTGTATATAT	ATACATATAC	ACACACACAT
	AGACACACAC	ACACACCTAA	ACACACACAT	AGAGATTTAT	GACTTTTTTAC	TTTTATCCTT	GTAAATGCCA
	TTAACTATAT	TTTGCTTAG	ATTTAGCCTG	GGAATGTAGC	CATTATTTCT	ACCATTGCCT	CCATAGGAAA
	AATACTCTTC	ATG TTTTAA	GGACCAACTG	ACAACATAAA	TCCTTGGAAT	GCAGAAATCA	TTGTAAGTTG
50	GTGAAAATGG	AAG ATGTTG	TTATAAAATG	AAGACTTTTT	TTTTTTTTTT	TTTTGAGACA	GGGCCTCACT
	CTGTTGTGGA	GTGC AGTGGT	GCTGTCATGG	CTTACTGCAG	CCTTGACCTC	CTGGGTTCAA	GTGATCTCTC
	CACCTCAGTC	TCCIGGGTAG	CTGGGACTAC	ATGTGCATGC	TACCATGCCT	GACTAATTTT	TTGTATTTTT
	GTAGAGATGT	GGT TCGCCA	TGTTGCCCAG	GCTGGTCTTG	AACTCGTGGG	CTCAAGTAAT	CCTCCTGCCT
	CAGCCTCCAA	AAGTCTGGG	ATTAGAGGTG	ACAGCCAAGG	TGCCTGGCCC	ACAGATGAAG	ACTATTTAAT
55	GTTATCTTAA	AGATACCTTA	AGCTTCTCTAC	CAAGCCAGTG	ATCTTTTGGG	GCTTCTGTTT	TCCTTGTTGG
	CATAACTGTA	ACT A GCCTAA	CTGCCCCTTA	TCTGTTCTCT	GTTTGCCCCA	CACCTGATTC	CACAGCAGTT
	TCAAGTTTAT	CGGT TTGAGA	TCTGTGACAG	AAATGACTCC	AAGTAAAAAA	ATTTAAAAAC	AACCCCTCTA
	ATTTTTTTTAC	CCTTGCTTAT	AAAACAGCCT	TAGCCAGCTA	ACCCCTCACT	ACATGCAAAAT	GAGTTTGATT
	CTATTCTTTT	GATT CTACAA	ACACTTATTA	AAAGATTTTA	GAATTCGGAA	ATAAATAGCT	TCCTTATTTA

5	CAATTAGGGA	CTGATAAATA	ATATTTTGT	AATTGCCAGT	GTAATGAC	AGGGGGCAAC	CTTTACATAC
	CATATTCAGT	GAACAGAATA	CGTACTAACT	AATTTGATGG	AAGGAAAATT	AAAATGACAA	TCAACTGAGC
	CCACAGAAAG	GCAACACAGA	GCAGTTGGTT	AGCAATTGTT	TCGAGATCAT	CCCTGAACTT	GAAACAGGTA
	TATCTTTTTT	TTTTTTTTT	TGAGACAGA	GTCTCACTCT	GTCACCAGGC	TGGAGTGCAA	TGGTGCGGTC
	TCAGCTCACT	GCAACTCCG	CCTCCCGGGT	TCAAGTGATT	CTTCTGTCTC	AGCCTCCGA	GTAGCTGGGA
10	TTACAGGTGC	CCGCACCAC	GCCTGGCTAA	TTTTTGATTT	TTTAGTAGAG	ACAGGGTTTC	ACCATGTTGG
	CCAGGTGGT	CTTC AACTGC	TGAGCTCATG	ATCCGCCCGC	CTCGGCCTCC	CAAAGTGCTG	GGATTACAGG
	CATGAGCCAC	CACACCTTGG	CAAAACAGGT	ATATCTTAAA	AGCTGCCCAA	TGTCATGAA	TGTTACAGCC
	TTGAATGGTT	CTTCCAGGTG	AGTTTGGCCA	AATGTGGCAC	CATACACCCA	AGGCCTGCTG	CAGGCTAGTG
	GGTTGCTCAC	ACTT TAAAGC	TGAGACACAC	TCATGCCTTA	AGGTAAAGGG	AGTGATAATC	TGGGCAGCAG
15	ATGTTAACTT	CTCAAGGCAG	TCCTCCTTCT	CTTTCCCTCT	CCAGTGACGG	ATGGTTGGAA	AGCATATAT
	GTGCATTTGG	TTACAGCTGT	GGCCTTGGTG	AATAGATACT	TGGGAGAATA	CATGGGAATT	TCTCCAGGG
	TTAATGCAAT	GCCCATGTGT	TGGGAACCAG	GTGACTCTTG	AAGAGGTCAG	GTATTTGGGA	GCAGTGCCTT
	GAAACCTTGA	TGGA CATTAG	ACCCACTTCC	TAGTGGAATT	GTAGCATTGA	AATCCAAGGC	ATGTAGGCTC
	TTAGAGGTAG	GAGATAGTGT	GTCATTTTTT	CAGAATTAAT	TAAGAGCAGG	CCAGGCGTGG	TGGCTCACAC
20	CTGTAATCCA	AGCCCTTTGG	GAGGCCAAGG	CAGGCAGATC	ACGAGGTCAG	GAGATCGAGA	CCACTCTGGC
	TAAACACAGTG	AAACCCCGTG	TCTACTAAAA	ATACAAAAAA	TTAGCTGGGC	ATGGTGGCAC	GCTCCTGTAG
	TCCCAGCTAC	TTGGGAGGCT	GAGGTGGGAG	AATAGCTTGA	ACCCAGAAGG	CGGAGGTTGC	AGTGAGCTGA
	AATTGCACCA	CTGC ACTCTA	GCCTGGTGAC	AGAGTGAGGC	TCTGTCTCAA	AAAAAAAAAA	GTATTAAAGA
	ATTACATAAG	AGCA AAGAAC	CATTAGAATA	TCTCACTTAG	TTGTTATCAG	CCTAGCAAGC	TGCCTTGAAG
25	GTAATAGACA	TTTTTAAAAG	TTTATCAGAT	GAAAAGCGAA	AATCAGCCAA	CCTGTTTTAA	TGAAGGTGTG
	TCCTGGGCTG	ATTIACATAT	CTCCAGGGAC	TGATGGCTCT	AGAATGTAAA	GCTTGGCATC	CTGCTTGTGT
	TGAATCTATC	ACA TTTAAT	TCCTGTGGGT	TTCTTTTTTT	TTCTTTTTTC	ACTTTAAAGT	TGTTGTCTTT
	TCATGTGAAG	TTAAACTCAC	ATACCTTTTT	TTAATCTCCT	TGCCAGCCAA	ATGATAAATG	CCAACCCAGA
	GAATGCAGTA	ACCATGACTG	CCACTGGAAT	GAAGAGGGGG	TTATAATCAC	CCTCCTTAAT	CATTGAGAAA
30	CTTTTGTTCA	ATTCTGAAAG	AGAAATCAGT	AAGGCACATA	GCATGAGACC	ACCAGCATTA	TTTCCTTAGT
	CTATCTCATG	ATAITTGACT	TTTTTCCTCC	TTACATCTCC	CAGTAGTAGC	CCATTTGATG	CCATTTGACA
	GATGAGGAAA	CTGGCATGGG	AAGGCCCTCG	ATGAGTCTAC	AGCATAGGCA	AAGACTGGAC	CAGCCTTGCT
	AGTCTAATGC	CTACAGAATC	TCAATGCCCA	GATTTGTGGT	TCATAGAGTT	CCTGAAAATG	CACCTAAAAA
	TGTTGGCAAG	AATGCTCATC	GTGTATATTA	GCTCCATGGA	CTTTGTCAAT	GACTGGAECT	CTGAAACACA
35	GAGAAGAGCT	AAAAGCCTAA	TACAACCTCA	GGAAAAATAA	AAGCCAATGA	TCTGAACTGG	ATAATTCACC
	AGTCAAAGGA	AATCATTAAT	GCTTTTACTT	TAAAGCAGTT	GTGCAAAAAT	AAGCACTTGA	TTTTTACATG
	CCAAGGACCT	GCACTAATTT	CTTTCCAATG	CAGTAGTTAC	CACCTCCCTC	TACTTCCTTC	ACGAATAAGT
	AAAAGGGCAT	GTTTAGAGAT	ACTCTTGTA	GTGTAACATA	AGTTCATTTG	GGAGCCTCTA	TTTGAAAATA
	CTGGTATAAA	AAA AATCTG	TCTCTGATA	CTAACATTTG	AAGGAATCTA	CTTTTTTACA	TATTGGCAGA
40	GGGTCTGATT	CTATCCTTAG	TTCTTCCCAT	TACTTTGATG	AACCTTTTCA	AGGTGATTTG	ATCCCCACAC
	CCAAATATAT	GATIGAGAGA	AGGCTCAAGT	TCCCAGGAGC	TCCAGACAGA	AGGTACCTGT	TGGCTTGATG
	AAGATGAGGA	GGAAATGAAC	ACTAGCTAGG	CTTAAAGGGG	AAATGTCTCT	GATAGGCCTA	GTACACAGTC
	CTCTGCTAAA	GGCTCCCTG	CCTCTCTCTG	CTCATCCACT	CTACTCCCTG	GGCCTGGGCA	CGCAGCACAC
	AGAGATCAGC	ATTCTGACA	GCTTCTGTAG	ATCCTACCAT	TTAAAGACTT	TTGTCATCCA	TGCAGATAGT
45	CTCAGGAGCA	GACACAGGTA	GCTATTCTTT	CACATGCTAG	CTTAACATGC	ATTTGCTTTA	GCACCTATTG
	CCAGGCACTG	TGTCAGGTGG	AGGGTATACA	AAGATGAACA	AGACATGATT	CTTCTCATAT	ACAGATAGAT
	TTTGAGGGCA	TTACCTTAGT	GATGATT CAG	GAGTATCCAT	TATTTGGGGA	AGTAGGTGGT	CATTAGTGAC
	CTTTTACAGG	CATTTC AATG	GGCTAACAGA	GATGTTAGAT	TGTAGTGGA	TAGAAGAATG	GGTAAAAAGT
	AAATCAGTGA	GTTCAGATTT	TAGGAGTTAA	TAGTGGCAAGA	GGTGAGAACA	AAAAAAGGAA	ATGATTGTCA
50	TTAAAGGAGG	AGGAAGACC	AGCCAAGAT	TTTACAGTGA	GTTAAGCATA	CAAATTTATT	TTAGGCCAC
	ATATTCTTAG	CAAAACAACA	TGTAAATGTT	TATGTATGTC	TTTCCTCATA	TCTGCTCATC	CATCAGCTCC
	ATCGTTAAGA	TTTCAGTTTT	CCAGGACAAA	CTTACTCACT	TTGACATATT	GGACTAGGAT	TTGACCAGAT
	TCCAGATGAT	TCACAAATGG	TTTTCTTCTT	CCCAATTAAC	TCAGTTCTCT	CTGAGCAGAT	GAAGGTACAT
	GCAGAGGTAA	AGCTGAAGCT	GGCCAGGGGA	TGGCTACAGT	TCATGATCCC	CAAATCTGGT	GCTGATAGAG
55	GCTCACCTGA	AATCACTTCA	ATGAAAAAGA	AAAAA AAAAA	AAAGACAAAA	CAGTATTTCT	GAGTAGAGAC
	CCTCCCTTGA	GCAAGGATT	TTTAGCCAAA	GCTGCCTGAC	TACATTACTT	GTGATATTGG	TTCCAGGCTT
	TATTTTCTTG	AGAAATGATG	TGGTGGGTGA	ATGAGAGATG	AAGGCAAGTA	AGCATTGAAA	GCTGTGGGGA
	GAGGAGTAGC	TACTCCAGGC	TGCTGCCCTA	GCTAAGGTGA	CCCTCCCTT	CTGCTGGAAG	TACCATGCCA
	TATGGCCTCT	GCAICAAGGG	CTCTTATGGG	ATATTCTCAG	AGAATCTCTG	CCGTTTCATC	

[illegible]



5	CTATCTCCCG CGCCTTGTTT ATGGGTTTTT AGTGTGACCT ACACTTAGAG CAGATTGAA CAAAATTTAGT ACCAACATAT TAATATCATA ATGTACCTAT TAAAAAACAT ATATCTAACT AGATCATGTT GGGCTTTGAA ATGGTATGAT ATAAAATAAA ACTGTTGTGT CCTGTTGTAT GGGAGAGTTA TTAGGAAATG CAACAATGGG ATGACATTAA TAAGTACCTT GGATTTGAAC	GATTCTATC TGTA TGGCAA CAGAATAATG ATGCAGACTT ATGA TGGAAAC GTAC AACCCTA GGTTTCTAG TTT A GACATT TAAC TATACA GGGAGAAGCA TTT A TTTTAC GTATAATTTT CTATACACAA GAT A TCTAAT CTACATGAAT CATTTTGAAC CCAC TGCTGT GAAAAGAGCA GCA T GTTTGC AAA A ACCAAG AGAA GGACCA TGTACACTGA AAC A GAGATT TCTACAGCAT	CAGTAGTAAG CTAAATCTGT GTAAGTCCAG ACATAATGTT AGAGCCTAAG GACCTTCTGG GTTTATTTTC CATATTTCTT ATTTACGTAT TAATAAGGAC CATAGGAAGA TAAAAAGAAC AGAGACTCAA TAAACACATA CACTATTTAA AGAGTTTTGA ATCCTTAGTG CTAAGTTTCT TTGGCTAGAG TTCAAAGCTA AAAAATGATA ACTATGAATA TCTTAATTAA GGGCTATTAT	AACGACTGAA GTAATTGTCT CAGTCGGTTC ACAGCTAAAA AGTGTATGTG CTTGAATATA TTATTAATTT TTTCTTTGTA ACTTTTTAAT AGGAAGAACA ACTGCTTCTG AATTTACAAA CTGATGATGT ATTACACAAT TACAGTAAAG ATGAGCATTC CCTAGCATAA ATGTGACACA CTGAAAATCC TTGCTGGAGA AACCCTCGTC AAAAATAGAA CATTATTCCT AGGTAAAAAA	AGGCAGAGTC CGGCAGAATC CATGATGTGC AGAACCTAGC ACCATCTCAG AGATGCTTTT TTTTCTCAAA GCTGTTAATG CCTGGAATCA GTGACATACT GAAAAGCCCA GCCAAATGGT TTAATAAACA GACITTCATA AAACAGATAT CACTAGAATG ATTTCACACA GTGCAGACAT AGGCTAGGGA GTCTTCAAGA CCTTAATTAAG AATGAGGTGC TTATAATTGA TAGTGTTCAG	TTCTCCAGAT TTCTAGCCCT CAGGAAATCT ACTACTCCAG GATCACAGAA ATTAAGGTT ATTATTTCAG ATTTACAAC TTTCTTGAAG TTTAAGTAAC ATATACCACT ATAGGATTAT TATGGACCCA TAATATATGG AATTGATGGT CAAGTTCTAA TTGTAGGGAC GGCATAAGGA GAAAGAAGAC ATCAGATATA TTCGTATTGT TAAATATTTG GGGATTTTGT GAGTTTCTGG	ACTCAATTTT TTGCCAGTTC GCAAGACATC GCTGAGCTAG TAGTTGTTTG CTATTTGAAA GTGAAATTTA AATTACCGTG GCCAACACAT CTCTTTTACA CTCTTTTACA GAAATTCATT TCAAAATAGA CAITCTAAGC AAAGAGCATC GAGGGAAAAA TCAGAAAAATA ATGTTGTGAAC ATTAGTTTAC AAATTTGTCA AATTTGATGA GTACAGATTG GGGGTTATTG GGAAGAACTA TTTCCCTTAG ATATAAAATAT CTCTGGGTGC CTTAAACCAC TGCTACTAA GAACTGATGC GCCCTGAATT TTAATATTTA GTTATAGCCT CAGACACCGT AAAGTCACAA CAACATGGCA AATTTTAAAA CTGATTTCAA AGAAGAAAGA CAGAATTTGA TCTAACGCTC ATTGAGCCTC ACTGCACTGA CCTCCCCCTT TCTATTGCCT TCCCTCCTTT TTGTTGCTGT TGTTTGGTTC TATCTTTTTT TACAAATCAA TTGACTCGTT ACTTCTGAA CAAGTACCTT ATATGATGAA CATTTTTAGG TTAATCTTTA AAGAAACAAA GACACGAAAA GACCACTAGC ACTGATCCCG ACTTAGAAG CTGAATAG
10							
15							
20							
25							
30							
35							
40							
45							
50							
55							
60							

[illegible]

CTAATAACAA GTTCTGAAAT TAAGGCAGCA ATTAATAGCC TACCAACTAA AAAAAGCCCA GGACCAGATG
 GATTACACAG CAAATTCTAC CAGAGGTACA AAGAGGTGCT GGTACCATT CTCTGAAAC TATTCAGAG
 AATAGAAAAA GAGGAACTCC TCCCTCACTC ATTTTATGAG GCCAGCATCA TCCTGATACT AAAACCTGGC
 AGAGACACAA CAAATAAAGA AAATTTAGG CCAATATCCC TGATGAACAT CATTGCGAAA ATACTAATA
 5 AAATACGGCA AACTGAATCC AGCAGCACAT CAAAAAGCTT ATCAACCACA ATCAAGTTGG CTTTCATCCT
 GGAATGCAAG GCTCGTTCAA CATAACAAA TCAATAAACA GAATCCATTA CGTAAACAGA ACCAATCACA
 AAAACCACGT GATATCTCA ATAGATGCAG AAAAGGCCCT GGATAAAATT CAACACCCCT TCATGCTAAA
 AACTCTCAAT AAAGTAGGTA TTGATGGAAC GTATCTCAAA ATAATAAGAG CTATTTATGA CAAACCCACA
 10 GCCAATAGCA TACTGAATGG GCAAAAACTG AAAGCGTTCC CTTTAAAAAC TGGCACAAGA CAAGTATGCC
 TCTCTACCA CTCTGTTCA ACATAGTATT GGAAGTTCTG GCCAGGGCAA TCAGGCAAGA GAAAGAAATA
 AAGTGTATT CAAATAGAAG GAGGAAGTCA AATTGTGTCT GTTTCAGAT GACATGATTG TATATTTAGA
 AAATCCCAT TGTCTAGCCC AAAATCTCCT TAAACTGATC AGCAACTTCA GCAAAGTCTC AGGTACAAA
 ATCAATGTGA AAAATCACA AGAATTCCTA TACAGCAATA ATAGACAAAC AGAGAGCCAA ATCATGAGTG
 AACTCCCAT CACGATTGCT ACAAAGAGAA TAAAAACCT AGGAATCCAA CTTACAAGGA ATGTGAAGGA
 15 CCTATTCAAG GAGAACTACA AACCCTGCT CAAGGAAATA AGAGAGGACA CAAATGAATG GAAAAACATT
 CCATGCTCAT GGGTAGGAAG AATCAATATC ATGAAAAATGA CCATACTGCC CAAGTAATT TATAGATTCA
 GTGCTATCCC CATCAAGCTA CTACTGACTT TTTTCACAGA ATTAGAAAAA AACTACTTTA AATTTTCATAT
 GGAACCAAAA AAGAGCTTGT ATAGCCAAGA CAATCCTAAG CAAAAAGAAC AAAGCTGGAG GCATCATGCT
 ACCTGACTTC AAACATACT ACAAGGCTAT AGTAACCAA ACAGCATGGT GCTGGTACAA AACAGATAT
 20 ATGGACCAAC GGAACAGAAC AGAGGCATCA GAAATAACAC CACACATCTA CAACCATCTG ATCTTTGACA
 AAGCTGACAA AAACAGCAAA TTGGGAAAGG ATTCCCCATT TAATAAATGA TGTGTTGAAA ACTGGCTAGC
 CATATGCAGA AAATGAAAC TGGATCCCTT CCTTACACCT TATATAAAAA TTAATCAAG ATGGATTAAG
 GACTTAAATG GAAGACCTAA AACCATAAAA ATTCTAGGAG AAAACCTAGG CAATACCATT CAGGACGTAG
 GTATGGGCAA AGACTTCATG ACTAAAACAC CAAAGCAAC AGCAACAAA GCCAAAATG ACAAATGGGA
 25 TCTAATTAAG CTAAAGAGCT TCTGCACAGT AGAAAAAATA AAATATCAT CAAAGTGAAC AGGAAACCTA
 CAGAATGGGA GAAATTTTT GCAATCTATT CACCTGACAA AGGGCTAATA TCCAAAATCT ACAAGAACT
 TAAACAAAT TACAAGAAAA AACAAACAAC ACCATCAAAA AGTGAGTGAA GGATATGAAC AGATGCTTCT
 CAAAAGAAGA AGTTATGCA GTCAACAAAC ATATGAAAAA AAGCTCATCA TCACTGGTCA TTAGAGAAAT
 GCAATCAAAA ACCAATATGA GATGCCATCT CATGCCAGTT AGAATGGCGA TTATTAATAA GTCAGGAAAC
 30 AACAGATGCT GGACAGGATG TGGAGAAATA AGAATGCTTT TTACAGTGTT GGTGGAAGTG TAAATTAGTT
 CAATCATGTT GGAAGACAAT GTGGCGATTT CTCAAGGATC TATACTAGA AAAACCATTT GACCCAGCAA
 TCCCATTACT GGGTATATAC CCAAAGGATT ATAAATCATT CTACGATAA GACACATGCA CACTTATGTT
 TATTGAGGCA CTATTCACAA CAGCAAAGAG TTGGAACCAA CCCAAATGCC CACCAATGAT AAATGGGATA
 AAGATGATGT GGCACATATA CATCATGGAA TACTATACAG CCATAAAAAA GGATGAGTTC ATGTCCTTTG
 35 CAGGGAGATG GATGAAGCTG TCTCAGCTCA TTCTAGCAA ACTAACACTG GAACAGAAAA CCAAACATTA
 CCCATTCTCA CTCAAAAGTG GGAGTTGAAC AATGAGAAC CATGGACACA GGGAGGGGAA GGCACACAC
 TGGGGCATGT CAGGGGATGT GGGGCTAGGG GAGGAACAGC ATTAGGAGAA ATACCTAATG TAGATGACAG
 GTTGATGAAT GCAGCAAACC ACCATGGCAC ATGTATACCT ATGTAACAAA CCTGCACGTT CTGCTCATGT
 ATCCAGAAA TTAAAGTATA ATTTAAAAAA AGTTTAAAAA AAGAAAGTTG CCTAGTCAC ATAAGTAGTA
 40 AGAGACATGG TTGC GAATTT GAACAGAGGC CAATCAGTTC CAAATCCATG CTCTGATCA TTAAGCTGAA
 CTTATGGCAG GAACITGGAA GACATGGTAA AATGGGGAAA AACGTGGAGC CAGGGGAGACT TGTGAAAGTG
 CCAGTGCTCC CACTATACCC TGAAAGAAAGT ATCTAGACTT ACTTTTTTCT AAGTCTCTC CTCTAATTCT
 CTCAATCTCT CTCTCTCTT CTCTAAGAGA TGGGAATGCT GCTCTGTCAC TCAGGCTAGA GTGCACTGGT
 GCGATCATAG CTCATTGCAC TCAAGGAATC CTAGGGTCTA GTGCCCTTC TCCCTCAGCC TCCCATGTAG
 45 CTAAGACTAC AGGCACATGC CCAACCCCTC GACTAATTTT TTTATTTTTT ATTTTGTAG AGACAGGATC
 TCACTATGTT GCTCAGGCTG TAATCTGTCT TTGAAGCTTG TCCAATCAGG CTTTCAGCCA CACCAATTCC
 CTGAGACTGC TCTACCAAG GTCCTACACT TCACTAACAC AACAGCCTA TTCTCCATCC TCATCTTACT
 TCACCAGGGA GCTCTGGTT TTCTCTCTAC TCACTGGCT ATTTCTCTG TATCATGTGT TGATTCTCCC
 TCATCTCCCC AACCICCAAA CCTTGGAGT ACTCCAGAGA TCACCGCTTT GCTCTTCTGT GTCTAACCTC
 50 ACTAACTTGG TGGTCCAAT CACTCTTTG ACTTTGAATA CCATTTAAAT GCGAACGAAT TCTAAATTCT
 GTACAACCAG AACCATTCT CTGTAGCCAA ATGCCTACTC AACATCTCCA TCCCAAAACA AATTAGTTG
 TTCAATAAGC CTCTCATATT TTACATATCC CAACTGAAC TTCTGAATTT CTCCTCCAAT CTGTAGGGCT
 CTTCCACAG CTTTCCATC TCAGTGGATT ATAATCCAT CCTTCCAGTT ACTCAGACCA AAATTTTGG
 AGTTAACTGA GACA CTTCT TTTTTTTTCA CAAGTCATAT CCAATGTGTC AACAAATTTT GGTAGTGGAA
 55 ATATTGCGGG ATTTTAAAG AAATCAGAGA GACCGATGGG GTTCAGGAGG ATATTTATTA TTTAGGTGCA
 CTGGCCAAAG CAGATTAACA TCCAAAGGAC TGAGCCCTGA ACAAAGAGTT AAGTTACCTT TTAAGCATTT
 TGTGGGGTGG GAGAGAGGGG TATCTGTGCA GGGGGAAGCA TACTACAGAA GTGAGAAATA AAGACAGTTA
 TTCAATTAAT TGAGACATGC ATTACATCAT TTCTACTTT TCAAGAAGAA ACATGTTTTG CGACTTGAGT
 60 TTATCTGTCT AGTGACCTTG CAGCTGCACA GCTAGAGAAA CAGGGTCTTC ACAATGCCCTG GGAAGGAGG
 AGAGGTAAGT CTCACTAGCC ACAGAAAAAC AGGCAGTTAA TTTTAAAGG GCTCCAGCTC TTTCTCTTC
 TCAGGGGGAG TTGCTTTTTG TTACATACAA CTGAGTTTCC GCTTACACAT TATTTAATTT CTTTAAATTC
 CTGTTCCAAA AGAAGCCAGA TACAAAAGGT TACATGTTGT CTGATTCCAT TTATATGAAA CATATAGAAG

004040 " 6294560

ATTTCTGTAA ATGGGGAATTG AAATAATTGC TGGACTTTTG AGAGATAGAT ATATTAAATT GCAAACCTGGC
 AGTAGTGGGG GCAGTTGATA CATAACTAGG TTTTAAAGTC TAGCCTTCTG AGACCACTCA TTCCATTTGT
 GAAAAGTGAT TCTA.CTTCTT ATTATGAGCC AAAATATGCA TTCATTACCC CATGCATTGA TTTATTTCATT
 CAATAAAATAT TTGTGGGATG TCCACTCTGT ATCAGGAATG TGCTAGGTTT TGGGAATACA GCAATGAACA
 5 AGGTAATTTT TCCCACCCCC TAAGGAACTT AGAGTTTAGT GGGGAAGACA GACATTAAAC AAACAATTGT
 GCAAGTAATA ATCTATAATT ATTTATTACA ATTAAGGAA GGAAGAGACA TATGGATTAT GAGGGCATT
 AAGAGGAGAC CTACGTGAAG TAGCCAGTTC TCGTGAAGGG ACATGTATTA GTTGGAGTTC TCCAGAGAAA
 CAGAACCAAT GGTCTGTGTG TGTGTGTGTG CGTGTGTGCG TGTGTGTGTT GGGGTGTGGG GGTGTGGTAT
 TTTTATAGA AATTGTCTCA CACAATTATG GAAGCTGAGA AGTCCCATGG CCTGCTGTCT ACGAGCTGAG
 10 AACCAGGAAA GCCAGTGGA TACTTCAAAG TCCAAAGGCC CTGGAACCAA GAGTGCCAGT GTTGAAGGC
 AGGAGAAGAT GGGGTGCCCC GCTTAAAAAG ACAGTGAATT CACTCTTTT GCTCTACATA GGGCCTCAAT
 GGGTTGGATC ATGC CCACCC ACATTGGTGA AGGCAATCCT CTAGTCTAC CAATTAATA CTAATCTCTT
 TGGAAATACT CTCACAGACA CACTGAGAAA TAATGTTTTA TCAGGGTGAT AGAAATCTTC TGGAGTTAAA
 CAATGGTGAT AGCTGTACAA TCACATACAT TTTTAAAGGG TGCGTTTTAT GGAAAGTGAG TTTTATCTAA
 15 ATAAAAATTC TAAGAAAGAG ACTTAACACA GAGATAAACA TAAGCACATT TATTGTCAAC CTTTATAGTG
 TTATGTCAAA TAGGCTGTAC ATAAGCTTAA ATAAATATAT ACTTTAAAAA TTATAAAATA TTTTAAAGTTA
 TAATTTAAAA TTCTCAATAA AACTCAAACA CAAACCACAC TGGTATTTC CACAGCTAAT TTCTAATGCA
 GTTTACATAA ATATTTACAA CACTTAAACA ATTTCAAAGA AAATAACACT GTATTCCATA CATAGCCTGA
 TCACAGTAGT TGTCTCTCT TATTTCCAG AGTTTTCTG CCCCTTAAAG AGAACCTCTG CTGTTCTGAT
 20 CCTATCACA TCTCTGTTT GACTGTTGGC TTTGTGTTG CCAGTGTTC GTTTTGATT TCACACTCCT CAAGCTAGA
 TTTTCTTCAA CACATGCTAA GTTAATGGAA GTTAGGAGA GTTTTGATT TCACACTCCT CAAGCTAGA
 GCAGCTTGG CAATTACTGA CTGAGAATTT TTCATTGCCA GTGATCAACT GAAAACCTGGA GATTCTTTG
 GAATTGTAA ATCTCTTAT AAATAAACAT AAATGCTTGC TCACACAGGC ATTCCTCTCT TCCAGAGCAC
 CCTAACATAC AGAAGAAAAC AAATAGGGAA TAACTATTAG ACATCTTCAT TCGTTAAAAA TCTACCAGAT
 25 GACTCTTTTA CATGCTGAGT TTCTATTGTG AATTAAAAAT CTTCCATAAT ATACAAGAAT TATGTTTACA
 TATCATATCT GACAAACATC TTTGTAGGAA TGCAAAGCAC ATCCATCTTT CTGTATTCTT TTCCAACAAA
 GACATTCTA AAAATATACC TTTGTGTGTT TGCATTATG CTTTTATTAG TTCAAAACGT TTGGCCTCAT
 GGAAGTTTTT CATCTGGAA ACCACATATT TCTGAAAAAA TATCTGACAA TATACAAACC TTCCATTCAG
 TTTTACTCT CCAA TCTAC CATGTTTTCA AAAAACAACT GTAGTAAAAA CACTCAGAAC TTTATTCTGG
 30 TTAACATCAT GCCTTGCTAG GGGACAATAG TTTCCCTTTT TGAAATAAAT TTAACAGAGA TGTAACATAA
 TTTGTAAATA AACAATGAGG GGGTAATCTA GAATAAGTAA CTTTTACCAT ATCATAGTTG ACAGCATTTA
 CAAGTTTTTT AAGTCCCTAC CACACTTGTA TTGAATGAAG AAGTATGGAA GATTATAATA TATTCAATGC
 AAGTAAAAAT ATCACAATCC TTAAGAACTC TTAAGAAAGC ACTGAATCCC ATAGGGATGA AAGTGATTAA
 ATTGTGCATA GTAACCTCG CACAGAGCAT TCAGTAGGAT TTGCACCATT AACAAACCTC CATGCATTG
 35 CCTGTGGGCA TTCAACATCT GTCAATTTTT TAAGTTATAA TATTTTTAGT CATTTTTTCT CTCTAAACTC
 TGGATAATTA TTATCTATT TTAGACAGC AACTGTGTAA TCAGCTGTG AAACACTGTG AAGGCTAAAA
 GAAAGAAAGC CACA AAATAT TGTGTTTCTG TGCCAAGATT TTACAGCGAG CAAGGGAGAG TTAGAAAAGG
 AATTCTGAGA TTTCAGAGTC TTGGTCTCTT CACCTTGCT TGGAAGAAAA TATCCTTTCC CTTCATTAGC
 CAACACTTTC TTGATCTCTGA GAGTAGGAAA GGGAACTCTG AGTCTTTTCA GTTGAAGGCC GTCCTTGCT
 40 GCTGGACTTT GATCTATTGA AGTGGTGATG GGTGTGCGG TTTCAGCCAT AAAGGCATCT GGCATAGTAG
 GCAAGAAGGG CCAGAGACCC GAGGAGAGTT ATCTGTCTCT GTTAACTTCA GTGTATCCCT CTAGTCCCTC
 AGATGCACCT GTTTCTGTAA ATATAAACAT GCATGTCATC AGAACACTTA ATATTCTGCA TACTGATCAT
 GACAACAAAA TGTA.CCTTCT AACACAGACA CTCTCACTAG GTAGACCAT GTAGGAACAT CGAATTCTAT
 TCAGTTAGGA CAGTGATGAT GTCTACATAT TATACCTCTG TCAAAACCTA CAGAATATAC AACACAGCAC
 45 AGAGTGAATT CTAATGTAGC CTGTGGACAT TAATGAATAA TAATGTATCA ATATTGGCCC ATCAGTTGTA
 AACTAATAT AAGATGTTAA TAACAGGGGG AATTGAAGGG GTGGTGGGGA GATATGTTGG AACTCTTTGT
 GCTTCTGCT CAATTTTCT GTAAACTTAA AACCAGCAC ACAAAAAAG TTATTTTAA TTTTAAAAA
 GTATTCAAGG GGACTTGACC TTTCCAAATT CTCTCAAAGC AGGTCGGAGT AGTTAAGAAC ACAAAATTTA
 GAACCAGACT GCCAGAGTTT GAATCCTGGC TACACCACTT ACTAGCTTTG AGATTTTCTA CAATTTACTT
 50 AACTTCTCTG TCTCATTTT TTTCTCTGTG TGATAAGAAA TAAAGTAACA GGCCAGGCC AGTGCTCAC
 GCCTGTAATC CCAGCACTTT GAGAGGCCAA GGCGGTGGA TCAGGAGTTC AAGATCAGCC TGGCCAACAT
 GACGAAAAAA TACA AAATCT CTAATAAAAA TACAAAAATT AGCTGGGTGT GGTGGCAGGC ACCTGTAATC
 CCAGCTACTC AGGAGGCTGA GGCAGGAGAA TTGCTTGAAC GCAGGAGGTG GAGGTTGCAG TGAGCCAAGA
 TCATGCCACT GCATCTCAGT CTAGGCAACA GAATGAGACT CCATCTCAA ATTAATAAAA AAAAAAGTAA
 55 AAAGAAAAGA TAAGAAAATAT AGTACCAGCC CCTATCTCAG AGTTCCTAGC TTAGAAAAAT TCCAGAATA
 TAATAAGTGC AATGTAAGGG TCAGCTATCT TCATTATTAT TATCTATCAT AAATGAAATT ACACAATAAA
 GCTAGATCCG TTCTTTTCT CTCTTCTAT AAAAAATAA GCAACTTTCC AGAACAATAC CCAGGTGATG
 ATTTCTCCCC TGCTCTTCC CTAAGATATT GGCAAGTTG GAGGGTTCAA GGAGAAACAG AGCATGTAGA
 GAAGATACCT CTCTCATAAC CATTTGTGAT TTACAAGTCT TACCTGATTC TTTTGAACCT AAAGGTGTA
 60 AGAAGGCTTT TGGTAGCTTC CATCTGATTC AAGGCTTTGG CAGCTGCTGT GGAATGTTCA ATGGCATGCT TTGTATAAGA
 GTAAAGCACT GTCTTCCAAC ATGAAGAGAG AAAAAATATGT GGAATGTTCA ATGGCATGCT TTGTATAAGA
 ATGCAACTTA CCTGTCAGGA ACAAAATTTCT TTGCTGCAAA AGAAAAGACA AACAAACATT AATTCAGACT



5	AAATGACTTT	TAAGGATATA	TAAATCCAG	ATACAATATG	ACTTAATTCA	TCAAGTGTG	CAAACTCGAT
	GCTTCAGGGC	CTCTGTAATA	ATCAGAGCAC	AAGCATGGCT	CTGTGGCATC	TAGGGTAAAA	TGCAAAGTGC
	ACAGCCATCC	AAACGGCATA	GCAGCTTCCT	AATGCCAGCA	AATAGCTACG	GGGTCATCTT	GCCCAATTCA
	GCTCCCAATT	TTTCATGAGA	AGTCCAAAGT	CTTAATTTAA	ATGTGAGATT	TCCTATTTTG	TAAACGTCAG
	AACTTAACTC	AAAAATGTTT	TAAGTACTCT	TAAACATGTA	AGCCAAAACAA	ACCATGAGTG	TAGTCAGATG
10	TGCTTCCATA	TTCCCTATGA	GAGACTCTCA	AATTTAAGCC	TGTACTCCAA	ATAAATCTCC	TTAGGAAGAA
	TTTATCCAT	TTTCTTAGA	GTGCTCATCA	TGGCAGTTCC	ATTGCACAA	TCCGGGAGGC	ATCATAAAT
	TCAACATGAA	TAGCACCCCC	TGGAGTTGTA	CAATATTAGG	CACGACTAAC	ATTTTTATT	CTCGAAACAC
	TTCCACACT	GAGTGTACT	ACTAACTCTT	TTCTTAATAC	TTCTGCTTAA	TTATACTGCA	TTTTATCCAG
	ATTCTAATTA	TTGTCTAAAT	CAGTAAGCAA	GACCATGACT	TATCAATGAG	AAAGAAATGT	ATTTTCAAAA
15	ACATTTTGA	AGTACATTCA	TAAACTTCCT	CACCTTCCG	TAAGCATTT	CGAAGCCAGA	GGAGAAATG
	TGCTAATGTC	AGGAGGGAGA	GTCCAGCAGC	AGAAAAGTCCA	GCTACCAAGG	GAATGTTGGA	CTCAGTGGGA
	GCTAAGGAAG	TAACAGACGA	AGAAAAGTCA	TGAGGAAGAA	TTGATGTTAA	AGTCTCTCCG	TCCTGTCCCT
	TTGGCCTTTT	TTCTGTACAT	TCATTACTAG	GAGCAGAAGA	GCTATCTAGT	TTAATACAAG	AAGCAGAGAT
	GTGGCAATTAC	AGGCCTTTGA	GATCTGCTCC	AAGCCACCTT	TGAAGCTATT	TCCACCATTG	GCAGGCAGAA
20	CTCTAACCTG	CCAAGCTCGT	TCACAATACC	ACACCACACC	TTGGTTAATA	AACACTGCAC	TTGCTTGCTC
	TCTTGCTCTC	ACTCCCTCTT	GTTTTCCATT	TCCCTTTTCT	CCTCTCCTCT	CTCTGTCTCC	TTTTTCCAGT
	TGTCAGAATT	CTACCTTTTC	CATCAACATG	CAACTTCTGT	TTTTTCTCTA	TCCCCATACA	ACTTAATATT
	CACAACTTGT	CAACCTGGGC	GAACCTTCTG	GTTTGGATAT	AATGAATAGT	TGATTACTGT	AACAAGATAG
	CTCCCCCTTT	TTCTTTTAA	TCACCAGACA	ACCACCATCA	ATCAATGCAT	CACCTTCACA	GGTAGGTAGC
25	AGGCCAGACC	AGTCTCCTGT	GGCTCCACAT	GTCCGAGCTG	CAGAGCCATT	GAGCGTCCAT	CCTTCAGGAC
	AGGCGAACTT	GCACACAGTG	CCAAACACGG	GCTCCCCACT	GCAGTCTATG	TTGATCTTTT	CCGGAACCTG
	CAGGCTTGAA	CATTTTACCA	TGCAAAATGT	TAGGTACACA	GGCAGAGTTT	CAGAAAAATC	TACTGGAAAA
	TGCCAAAAC	TTGCTTAAAA	GTCAACAATG	AATGTAAAGT	TGAAGCGCTA	CTTAGTTTTT	AGCATGTAGG
	AAATTAGGAC	CAAACTCCCTT	TGGGGCAATC	TAGGTTTACA	AACTTTATGA	AGTATTTGAC	CTGTACCCTA
30	AAAAAGTCTG	CACICAATTTC	TACCTTGGA	GGAAGGAACC	TCTTCTGTCC	ATTGTCCCTG	AGATGTGCAC
	TCAAGTTGAG	TTGATCCATG	TAATTCAAAT	CCCTCCTCAC	AGCTGAAGGC	ACAAGAGGAC	TTGTAGGTGA
	ATTCTCCAAT	AGGGGAATGA	GCACACCTCA	CCAAACCCTT	CGGGGGCTGG	TGGACAGCAT	CGCATCTCAC
	AGCTGGAACA	CACGAGAGAG	CACTTTAGAA	GTTTGTGTC	ATCTCCAGCA	ATACGTTTCC	CAAGGTAACC
	AAGTTCCCAA	GCTCTTCAAT	AGTTCTTTTT	ATCTTAAAAA	AAAAATCTGT	CAAAAGACTG	ACCTTCACAT
35	GTGGGCTTCT	CGTTTCTCCA	CTCCCCGTG	GGGCCACATT	GGAGCCTTTT	GGATCCCTTC	AACACAAAAC
	CCTGCTCACA	GGAGAACTCA	CAGCTGGACC	CATAACGGAA	ACTGCCAGAA	GCACTAGGAA	GACAATTCAT
	GTAGCCTCGC	TCGGGTTTGG	ACAAGGCTGT	GCACTGGAAA	GCTGAGACAT	CAAAATGATG	GTCAGAAAAT
	ATTGCAGTGG	AACTAGAGAG	TACTTGCGGT	TTGTTGAGTG	AACCCAGTTC	ATTCAAGCAA	CACTTGGAGA
	ACTGAAGATT	CTTTATAATT	CCCTGGACAA	ATGGGAAGAT	GGCTGTGTTT	TCTTTGAATT	TCAGCCCCCT
40	CACTGATCAT	GGCACTAATT	AAAAGACTAA	TTAATCAGAA	CATTAGTTCC	TGAGCACTGT	TCTTCTAACA
	CACAAAAATA	ATTATGGTCC	AAGGAAAGAT	TTACACGCA	CTGAGGACAA	CATATGGGTC	ATGGATGTTT
	ATAGATGGTG	CCAAAGAGAA	AGAAAAGAAA	GCACCCTTAT	AAAAATTGTC	TGTTTTCGAG	TTTGGTTTTT
	GTGTTATGTT	TTGCTACTGG	AAATCATTCT	GTGCTGGCTT	TGGCTAGGAC	AAGGCCAGTG	CTCGATAGTA
	AAAAGTCTT	GTTTTCATA	TCCTTGCTCT	CACTTTAAAG	TGAATTAATA	TTTACTGCTT	ATATATGCAT
45	CAATACTATC	TCTGTAGCTG	ACACCATGCT	TGAAACAGTC	TCATCACTGC	TAATTATGAG	CCATTTCAGA
	AGACAGGTGT	GATGAGAGTT	TTACATTCAA	ATCATGTTCT	CATTATTCTG	CTTCCGAAT	TTTCTAATAT
	GATTCTTTTA	GATTAGAAT	TCTGTCTATT	CCATGCTAAT	GTCTACAAAG	TTTTATCAGC	ACATCACAGT
	TAAAAAATA	CAGCAAAGAA	TTTATTCTTA	ACACATATGA	TCCTTTCCCT	GGCCAAACAT	TAGTTCTTTT
	AAATGAATCT	CAAAATACAT	AGGGTTGCTC	ATCAAACTGT	ATTTCTATAG	TTAAAGTGGG	TATTGGTTTT
50	TTTTTCACT	GTCCAAGTTT	GAAGATGCTT	GTTCTTTAAG	AAAGTATAAA	TCAAGGATGC	TCAAGCTTAC
	CTTCACAAAC	TGGCATTTGC	TGTGTCCACT	GCCCTTGAGT	GGTGCATTCA	ACCTGGGCTG	GTCCCTGCAA
	CATGAAGCCT	TCCTACAGAG	TGAAGTTGCA	GGATGATTTG	AAGGTGAACT	CTCCAGCAGG	GGAATGGCTG
	CACCTCACAG	AGCCATTCTG	AGGCTGGCGG	ACGGCCCTGC	ATGTCACAGC	TGTAACAAAT	ATACGCATTG
	ATATTAGCAC	GGCCTAGAAT	TAGCTTGCCC	ATTTCCAGTA	TGGGTTGAGA	GAAAGAATGT	TCACAGTAAG
55	TCTCCATGTG	GAACAACCTCT	ACCTTTACAC	GTTGGCTTCT	CGTTGTCCCA	ATTCCCAGAT	GAGGTACACT
	GAAGGCTCTG	GGCTCCCAT	AGTTCAAATC	CTTCTTCACA	GTCAAAATGTA	CAGGTTGTGT	TCCATGGGAA
	GCTTCCAGGG	TTTTGAAAC	ATTCCACGAA	CCCATTTGCT	GGATTTGTCA	CAGCATCACA	CTCAACCACT
	GAGGATTTTA	AAGAGCACCA	TGAATTTTAC	AGAAAGATGA	TCTTTTCACT	TCTATTGAG	CTGGGTGCTT
	AACAGAGTGA	GGAAAGCTGCC	TTCAAAGGGT	AGATCCCAAA	GTCCTATGTC		

Variable	Mean	SD	Min	Max
Age	34.5	10.5	18	65
Gender	Male	10.5	0	21
Marital status	Married	10.5	0	21
Education	High school	10.5	0	21
Occupation	Manager	10.5	0	21
Income	High	10.5	0	21
Health status	Good	10.5	0	21
Life satisfaction	High	10.5	0	21
Work satisfaction	High	10.5	0	21
Family satisfaction	High	10.5	0	21
Community satisfaction	High	10.5	0	21
Environment satisfaction	High	10.5	0	21
Quality of life	High	10.5	0	21
Life expectancy	High	10.5	0	21
Healthcare access	High	10.5	0	21
Healthcare quality	High	10.5	0	21
Healthcare cost	High	10.5	0	21
Healthcare coverage	High	10.5	0	21
Healthcare equity	High	10.5	0	21
Healthcare efficiency	High	10.5	0	21
Healthcare effectiveness	High	10.5	0	21
Healthcare safety	High	10.5	0	21
Healthcare transparency	High	10.5	0	21
Healthcare accountability	High	10.5	0	21
Healthcare integrity	High	10.5	0	21
Healthcare honesty	High	10.5	0	21
Healthcare fairness	High	10.5	0	21
Healthcare justice	High	10.5	0	21
Healthcare equity	High	10.5	0	21
Healthcare efficiency	High	10.5	0	21
Healthcare effectiveness	High	10.5	0	21
Healthcare safety	High	10.5	0	21
Healthcare transparency	High	10.5	0	21
Healthcare accountability	High	10.5	0	21
Healthcare integrity	High	10.5	0	21
Healthcare honesty	High	10.5	0	21
Healthcare fairness	High	10.5	0	21
Healthcare justice	High	10.5	0	21
Healthcare equity	High	10.5	0	21
Healthcare efficiency	High	10.5	0	21
Healthcare effectiveness	High	10.5	0	21
Healthcare safety	High	10.5	0	21
Healthcare transparency	High	10.5	0	21
Healthcare accountability	High	10.5	0	21
Healthcare integrity	High	10.5	0	21
Healthcare honesty	High	10.5	0	21
Healthcare fairness	High	10.5	0	21
Healthcare justice	High	10.5	0	21
Healthcare equity	High	10.5	0	21
Healthcare efficiency	High	10.5	0	21
Healthcare effectiveness	High	10.5	0	21
Healthcare safety	High	10.5	0	21
Healthcare transparency	High	10.5	0	21
Healthcare accountability	High	10.5	0	21
Healthcare integrity	High	10.5	0	21
Healthcare honesty	High	10.5	0	21
Healthcare fairness	High	10.5	0	21
Healthcare justice	High	10.5	0	21
Healthcare equity	High	10.5	0	21
Healthcare efficiency	High	10.5	0	21
Healthcare effectiveness	High	10.5	0	21
Healthcare safety	High	10.5	0	21
Healthcare transparency	High	10.5	0	21
Healthcare accountability	High	10.5	0	21
Healthcare integrity	High	10.5	0	21
Healthcare honesty	High	10.5	0	21
Healthcare fairness	High	10.5	0	21
Healthcare justice	High	10.5	0	21
Healthcare equity	High	10.5	0	21
Healthcare efficiency	High	10.5	0	21
Healthcare effectiveness	High	10.5	0	21
Healthcare safety	High	10.5	0	21
Healthcare transparency	High	10.5	0	21
Healthcare accountability	High	10.5	0	21
Healthcare integrity	High	10.5	0	21
Healthcare honesty	High	10.5	0	21
Healthcare fairness	High	10.5	0	21
Healthcare justice	High	10.5	0	21
Healthcare equity	High	10.5	0	21
Healthcare efficiency	High	10.5	0	21
Healthcare effectiveness	High	10.5	0	21
Healthcare safety	High	10.5	0	21
Healthcare transparency	High	10.5	0	21
Healthcare accountability	High	10.5	0	21
Healthcare integrity	High</			

1. 1990年12月31日 2. 1991年12月31日 3. 1992年12月31日 4. 1993年12月31日 5. 1994年12月31日 6. 1995年12月31日 7. 1996年12月31日 8. 1997年12月31日 9. 1998年12月31日 10. 1999年12月31日 11. 2000年12月31日 12. 2001年12月31日 13. 2002年12月31日 14. 2003年12月31日 15. 2004年12月31日 16. 2005年12月31日 17. 2006年12月31日 18. 2007年12月31日 19. 2008年12月31日 20. 2009年12月31日 21. 2010年12月31日 22. 2011年12月31日 23. 2012年12月31日 24. 2013年12月31日 25. 2014年12月31日 26. 2015年12月31日 27. 2016年12月31日 28. 2017年12月31日 29. 2018年12月31日 30. 2019年12月31日 31. 2020年12月31日 32. 2021年12月31日 33. 2022年12月31日 34. 2023年12月31日 35. 2024年12月31日 36. 2025年12月31日 37. 2026年12月31日 38. 2027年12月31日 39. 2028年12月31日 40. 2029年12月31日 41. 2030年12月31日 42. 2031年12月31日 43. 2032年12月31日 44. 2033年12月31日 45. 2034年12月31日 46. 2035年12月31日 47. 2036年12月31日 48. 2037年12月31日 49. 2038年12月31日 50. 2039年12月31日 51. 2040年12月31日 52. 2041年12月31日 53. 2042年12月31日 54. 2043年12月31日 55. 2044年12月31日 56. 2045年12月31日 57. 2046年12月31日 58. 2047年12月31日 59. 2048年12月31日 60. 2049年12月31日 61. 2050年12月31日 62. 2051年12月31日 63. 2052年12月31日 64. 2053年12月31日 65. 2054年12月31日 66. 2055年12月31日 67. 2056年12月31日 68. 2057年12月31日 69. 2058年12月31日 70. 2059年12月31日 71. 2060年12月31日 72. 2061年12月31日 73. 2062年12月31日 74. 2063年12月31日 75. 2064年12月31日 76. 2065年12月31日 77. 2066年12月31日 78. 2067年12月31日 79. 2068年12月31日 80. 2069年12月31日 81. 2070年12月31日 82. 2071年12月31日 83. 2072年12月31日 84. 2073年12月31日 85. 2074年12月31日 86. 2075年12月31日 87. 2076年12月31日 88. 2077年12月31日 89. 2078年12月31日 90. 2079年12月31日 91. 2080年12月31日 92. 2081年12月31日 93. 2082年12月31日 94. 2083年12月31日 95. 2084年12月31日 96. 2085年12月31日 97. 2086年12月31日 98. 2087年12月31日 99. 2088年12月31日 100. 2089年12月31日 101. 2090年12月31日 102. 2091年12月31日 103. 2092年12月31日 104. 2093年12月31日 105. 2094年12月31日 106. 2095年12月31日 107. 2096年12月31日 108. 2097年12月31日 109. 2098年12月31日 110. 2099年12月31日 111. 2100年12月31日 112. 2101年12月31日 113. 2102年12月31日 114. 2103年12月31日 115. 2104年12月31日 116. 2105年12月31日 117. 2106年12月31日 118. 2107年12月31日 119. 2108年12月31日 120. 2109年12月31日 121. 2110年12月31日 122. 2111年12月31日 123. 2112年12月31日 124. 2113年12月31日 125. 2114年12月31日 126. 2115年12月31日 127. 2116年12月31日 128. 2117年12月31日 129. 2118年12月31日 130. 2119年12月31日 131. 2120年12月31日 132. 2121年12月31日 133. 2122年12月31日 134. 2123年12月31日 135. 2124年12月31日 136. 2125年12月31日 137. 2126年12月31日 138. 2127年12月31日 139. 2128年12月31日 140. 2129年12月31日 141. 2130年12月31日 142. 2131年12月31日 143. 2132年12月31日 144. 2133年12月31日 145. 2134年12月31日 146. 2135年12月31日 147. 2136年12月31日 148. 2137年12月31日 149. 2138年12月31日 150. 2139年12月31日 151. 2140年12月31日 152. 2141年12月31日 153. 2142年12月31日 154. 2143年12月31日 155. 2144年12月31日 156. 2145年12月31日 157. 2146年12月31日 158. 2147年12月31日 159. 2148年12月31日 160. 2149年12月31日 161. 2150年12月31日 162. 2151年12月31日 163. 2152年12月31日 164. 2153年12月31日 165. 2154年12月31日 166. 2155年12月31日 167. 2156年12月31日 168. 2157年12月31日 169. 2158年12月31日 170. 2159年12月31日 171. 2160年12月31日 172. 2161年12月31日 173. 2162年12月31日 174. 2163年12月31日 175. 2164年12月31日 176. 2165年12月31日 177. 2166年12月31日 178. 2167年12月31日 179. 2168年12月31日 180. 2169年12月31日 181. 2170年12月31日 182. 2171年12月31日 183. 2172年12月31日 184. 2173年12月31日 185. 2174年12月31日 186. 2175年12月31日 187. 2176年12月31日 188. 2177年12月31日 189. 2178年12月31日 190. 2179年12月31日 191. 2180年12月31日 192. 2181年12月31日 193. 2182年12月31日 194. 2183年12月31日 195. 2184年12月31日 196. 2185年12月31日 197. 2186年12月31日 198. 2187年12月31日 199. 2188年12月31日 200.	
--	--

	TAATATCTAA	CACTCAAATG	GTAAAAATAA	TGCCTTATTT	TAAAAAAAAGA	AAAATGGGAA	ATAGATATTT
	ACATCTGGGA	AAGTTCATG	GTTTGTTCAG	TGAAAAAAAT	AAAAAGGAGG	CCAGGCACAG	TGGCTCACGC
	CTGTAATCCC	ACCACTTTGG	GAGGCCGAGG	CAGGCGGATC	ACCTGAGGCC	GGGAGTTCAA	GACCAGCCTG
	ACCAACATGG	AGAAACGCCA	TCTCTACTAA	AAATACAAAA	TTAGCTGGGC	ATGGTGGCGC	ATGCCTGTAA
5	TCCCAGCTAC	TCGGJAGGCT	GAGGCAGGAG	AATCGCTTGA	ACCCGGGAAG	TGGAGGTTGC	AGTGAGCCAA
	GATCAGCCGA	GTGCACTCCA	GCCTGGGAAA	CGAGTGAAAC	TCTGTCTTAA	AAAAAAAAAA	AAAAAAAAAGAA
	AAGAAAAGAA	AAAIAATAAA	ACGGAIAAACT	ATATATATAT	ATTTAATTGG	TCAAAATTTT	GTTTAAAAAT
	TTTGAATGT	TAATJTGCAA	AGATAAAAAA	TTCTCCACA	ATGTIAACAG	TGACTAACTC	TGGATGGCAG
	GATTTGGGAT	AATJTTTATA	TCCTTCATTA	TTATTTTCAG	GATTTTAAAG	TTTTTTTCAA	TTCCCTTTT
10	TTTCACCTTT	ATAGIAACAA	GAATACAGTT	TAAAGAAACT	TGTCTCTAGG	CCAGGCATGA	TGGCTCATGC
	CTGTAATCCC	AGCACTTTGG	GAGGCTGAGG	TGGGTGGATC	ACCTGAGGTC	AGGAGTTCCA	GACCAGCGTG
	GCCAATATGG	TGAAACCCCTG	TCTCTACTAA	AAATACAAAA	ATTAGCCGGG	GTGTAGTGGC	GCATGCCTGT
	AATCCCAGCT	ACTGJGGAGC	CTGATGCAAG	AGAATCGCTT	GAACCCAGGA	GGCAGAGGTT	GCAGTGAGCT
	GAAATCACAC	CATTJCACTC	CAGCCTGGGC	GACAGAGCAA	GACTCCATCT	CAAAAAAAAA	GAAAAAAAAAGA
15	AAAAGAAAAG	AAAJGAAATT	TGTTTCCAAA	TGCAACAGAA	GGAGATGTAT	GTGGTATCCT	ATATTCTGTC
	TCTTCATTTT	GACATTTCTT	CTGGGTGATT	GTATACATTC	CCCATCTCTG	CATCTTACCC	TATCTAAATG
	ATGGTAACAG	TAAJTGGGGA	TCATTTTAAAT	TTCCATATTC	TGTAGGTTTT	CAGAGCTCAA	GTCAAGCTAA
	TATTCTATAT	CTACAGCCTT	TCAAAATAGG	AGGTCTATCT	AAAAATGTAC	TGTCAGCAGA	CCTGAACGAG
20	TAGTGGTAAA	AGCCTCGTTT	TTCTCTTTAC	TTGTTAGCAC	TGGTCTTTCT	GTGTTCATAA	AGATGTCAAG
	ACCCAAAAAA	AAAJCAAGAA	AAGAGAAGAA	AAATTCCAAA	AAAGACAACCT	GATTAGAAAA	AAATAACTTA
	ATTAACGAAT	TTAATTC AAC	CCCTATCAAA	AAGCATAGAA	TTTATTC CCT	CCACCTTACC	ACTCTCTTAC
	ATGATCCAGA	TACJGACATT	ATTCCAATTC	TTTATCCCAC	TTTACTTAGC	TCAATGTGGT	TGTTGCTTCA
	ATAAATTGAG	AAGJGTAATC	ACTCATATAG	TGTTTATTTA	GATTTTAGGG	CAGAATGTCA	AGTTGGGTAA
25	ATACATTATC	TGTAJGTATT	TTATTTTAA	TAAAGATATGA	ATACATAATC	TGCTATTTTT	AAAAAGCATG
	GTCAAATGTA	TAGAGTAGCC	AAATCTTAAA	AAACAATTTA	TCTTCGATAT	CAATAAAGTA	CCTAATAAAT
	ATATTGCTAA	TAGAAATTAG	TCGTTAACAT	CCCTAGATAA	CTAACTTTAT	TATTGCGAAT	TTTTCATAAC
	TAAGTTTATA	GTTTJCTCT	TCCCCTTTTT	AAAATTAGTT	CAAAGATATC	TAAAAATAGC	CCCAGTGGTG
	ATGAAGTTTC	TATTTTACTT	ACATATATAT	GTCCTGGACC	CCCAATTATA	ATCTCTAACA	TTTATTGAGT
30	GCTTACTATG	TGCCAGGCCA	TATTTGAGC	ATTTTGTATG	TTCACCTATT	GATTATTC AA	TCCGTACAAC
	AGCCTATGAA	ATACJGACTC	CTATTATCCC	CATTTTACAG	ATGAGGAAAT	TGAGAATCTG	GGGATTTTTAT
	CTCATTCAAA	AGCACAGAGC	TAAGGTGTGA	AACCCAGCAG	TTGATATCCA	GAGCCCCACTC	CCTTACCTGC
	TACTCCAAAC	CATCJATTCT	TTTGTGTGTA	TGCCCCGAGA	TTCTTGTTTC	TACCCAAGTT	TCCTGTACTC
	TTCTTGCCCT	CTTCJCTCTG	AGACATCCTT	GACCATCACA	GCTCTCCACT	GAGATAACTG	TGTCCTGGGT
35	TCTGAGACAT	GGGGJCTGGA	AGGGACCCCA	GGGACAGTGA	GCAGTAGGGA	GAGGATGCAG	TGAGAACAGA
	CCCTGGATCC	CCGGJGCATA	GGCAGGGAGA	AAGTGGACAA	AGGAAAAAAC	AAGCAAGGCA	GGTGGAGCCA
	TGCCTAGGTA	AAGJTGATCC	CTAAGCCACA	GTCCCAGAA	GTTCTGATT	CAAAAGCAAA	TTTTCTCTAA
	GGTCAAAAGG	CAAJCTGATT	ATTCTAAATT	CTAAACTGAT	TATTTCTAAA	TTGAGAAAGC	TTCAGGGAGA
	GATCCCAATA	TTCGJAGGAT	AAGAGAAATG	AGGATGTGAA	GAGATAGGTG	AGTAACAGTA	ACTTAAATGT
40	AGACTATATA	TAATJATATA	TATATAGAGA	GTATATATAT	ATAATTACAA	TATATTATAT	TATTTGAAATA
	TATATATTAT	TTATJATATAT	TTATATATTT	TATATATATA	GATATTTTTA	TATTTTATAT	ATAAATATAG
	ATATTTTTAT	ATTTJATATA	TAAATATAGA	TATTTTATATA	TATATTATAT	ATAAATATAT	GTAAAAACT
	GTGAAAAGAAG	AATJGAATCT	TGAGACCTCA	AATTCACTAT	GCCAAAGGGA	AAGTTAAGCT	TGGGAAATGA
	GTCATGCAAA	AACTJGCCTTC	CTTTTGTTCC	CAAATACCTG	TAATTTCACA	TGCTTACTTT	ATCTTATATA
45	AAATGTAGAT	GTACJTGAGCA	TGAGATCCAT	GCATAATTTT	CCTCTAGTCC	CTTCTTTTTA	CATGTAAAGT
	GTAGACTCAC	TGAGJTGTAC	AGAGCCTTGC	CACAATGTAA	ACACTGTGCT	CATTGCCAAC	CCATCTTTCC
	TTATTTTCT	TCCCJCTCTG	CTTGCTCTTT	CCCCCTCAA	GATGGAAGTT	CCCAAAACTC	TTTGTGAAA
	AAGCGCAGGT	CACAJGATCCT	ACAGTGATTT	GTGTTTCTTT	TACCTGGGAC	AAAAATAACC	TCTAATCTGT
	TGAGATATGC	TTCAGTTACT	TTTTGGTTTA	CAATATGTAC	ATGTATGTAT	ATAATTTATA	TGTATATAAT
50	ATATGTACTT	GTTTJAACCA	GAGGTATGTT	ATTCAAAATC	CATTCATCCT	TACAATTACC	TGCATTCTCC
	CACAGTATTT	TCTGJGTCCC	TGCCCCCGAG	GTTGTCACTG	CAAATCAGGT	ACATGGATAC	TGGGAGCTGA
	TGGGCTCCCC	TCTGJCTACC	TGGGCTGCTG	AAGGGGCCAT	AGACAGACCC	AGCTTTCCTC	TCGTGGAGAG
	GCCCTGGGCC	AGCCJTGCGT	GGGAGTGGGA	TTACAACCGA	ACTATAGCTT	CTTCACCTGC	TTTTTCTAT
	CAGGATTTCA	TAAJAGGCAA	TTGCTTGTTT	TTTGAGGTG	GGGGCAAAT	AGGGGGAGT	GAAGAGGAAA

	TGTGACCGGG	AAGCAGGGGC	AGTGGTGTCC	TCCTGCCTTC	CTGAGGCAC	CTGTTCCTT	ACCTCTGCA
	AGGCTTATTT	TACCCCTGAG	TGCTTAGTTT	TGAAAGCCTT	AGTTCCTCT	CTCCATAAA	AAAGCTCTAC
	TCTGCTAACA	TCTAAGTTAC	CTTTCAGAG	TCTTAGGTAG	AGGGAGGAAA	TCCCAATAAA	GATTCCACCC
	TATCTGCAAA	ATACAAACAT	GGTATTTCTT	GCATTCCCAA	AATTGTGAAA	GAAAATGTGT	ATCACCACAG
5	TAGAGAATGG	CATTTTTTGT	TTGATCAAAA	CCTAAATATA	TTTGATGAAA	ATGTGTCTGG	TTCTAAGTTT
	ATTTCCAG	AAGCATGTT	TACTACTTG	GAATTTATAG	ACATCTTATA	ATATCTGAGT	CGAGTAGGAG
	CTCCGGGCTC	TACCTCACTC	TTTTCTCCCA	CACCCAGGGG	GAAGTGTAGG	GTTCTCAGAC	TTTAGAATAA
	AGAGGAATCA	CCTC GACAAC	TCACCTAAAA	TGCACATCTT	CAGGTTCTAT	ACTCAGAGGC	TCTGACTCAA
	CAGGTCTGGG	TGGCGCCCAA	GAATTTGGGC	TTTAAATGAG	TATCTCAGAT	GATTCTAATA	CAGAATGTGT
10	AAGATGACCA	GATCTATCA	CACTTAGATG	TATTGGCCTA	GGGCCACCTA	ACTTGGAGAA	AATGTTAGTA
	AGACCCGTG	GTTCGTGCTC	AGCTATAGGT	ACCAGAAATT	TGATCAAAAT	TTACTATCAT	TGTGACACT
	CTCTTCGGAA	CTGG AAGGCC	AGAACCCAC	TGTAAAGTG	CTGGGAAAAT	ACAAGGAAAA	TTTAGGGTGA
	GTAGCATTTT	GAATICTTAC	ACATGGAAAAG	TAAATGTATA	AGAATTCTTA	CCAATAAAAA	AAAAGCAAGA
	GAGAATAGT	GCTAAGAAT	TAACACAAAT	ATGTATATAT	TAGTTATTCT	CTTTTCTCCT	CTGATTCCAG
15	AGGACTTGT	AATICCACTA	ATCTCTCTG	AGCTCCAGT	ATGATCTGAG	ACTTGAATTT	TTCATGTGCT
	TTTTGCTTCC	TATTGGCAG	CATCTATCT	TGAAGTTTCC	GCTTCTGAG	TGGGGACCTA	AAAACATACT
	AATGGGAATT	TCTTCAAAAT	GAGCAAATC	TGGTGAATTC	CCAAAGCGGA	AGAAACAAGT	GAGGATCGGG
	CTGGTTAATT	AAGAGAACTT	TTCTGAATG	TAGCCAGACT	GTTTGCCGAC	TGTTGTTAAC	ATGAGGGAAG
	AAATACCCCT	GGATTTTAGA	AGAGCCCTT	GTTTGTTC	CTTGGCCATT	TGTGCTGCTT	GTTTTGTAAG
20	TCAGAAATTT	CCTGAAGGAC	TATTATTAGC	TTTGTCTCA	CGTCAGAAAA	CTTCTGCTCT	GGCCACTTTT
	AAACATATAA	CTTGGATTTT	ACTGTATTAG	AAAATGTAAC	AATTACAGAC	AGCACTAAAA	GGACACCAAA
	GGGCAAAAGA	AATGGGTAAC	TTTTTTTTCT	TCCCCAAATC	TAAAAATAGT	GATTTTGGAG	AAGTAGGAGA
	AAAACCTGGA	TTTICTAGAT	CTCTTAGAG	TCAACAAACT	GATATAGTTA	ATTATGTAAG	TCTTTGATAT
	TTGGAAATGA	TTGGATTAAAC	CGGATAACAA	TGAATATTTA	AATACAGTGA	TTTGGCCAGG	AGCAGTGGCT
25	CATGCCTGTA	ATCCAGCAT	TTGGGGAGGC	TGAGGCGGGT	GGATCACCTA	AGGCCGGGAG	TTCCAGACCA
	GCCTGGCCAA	CATGGTGAAG	CCCCATCTCT	ACTAAAAATA	CAAAATTAGC	CAGGCGTGGT	GGTGCAAGAC
	TGTAATCCCA	GCAACTCGGG	AGGCTGAGGC	AGGAGAATTG	CTTGAACCCG	GGAGGCAGAG	GTTGCAGTGA
	GCCAAGATCA	CGCCATTGCA	CTCCAGCCTG	GGCAACAAGA	GCGAAATTCC	ATCTCAATAA	ATAAATAAAT
	AAATACAGTG	ATTTAACACA	AGAGATTTCT	ATTTACACAT	AATGAGCTCT	GTCAGTGGGG	CAAGCTTCTT
30	TGCTCATTA	AGTCTCAGAT	TTCCCGAGAG	CTTATTTATT	TATACCAAGA	GTGCTTTACT	ACCGTCTCTG
	CTAGCTGTGA	CATAATATGA	CAAAAGGTAG	AAATATGGGA	AAAGGCACATA	ATTTATATCA	AAGCGTTCTT
	CGTTTTTCTT	TGCTGTGAAG	TTTTTAGCTA	ATAATTCTA	AGAATATACC	ATTTTAGAG	TGTTTACTAT
	GCATGGGCCT	GGCATCTCAC	ATACATTGCT	TCTTACAAAT	TTTACAAAGT	GAAAGGTAGA	TATTAATCTC
	ATTTTATGGA	GGACAAGATA	GAGATCTGGA	GAGGTTACAT	AACCTGCCAG	TGTTTTTTCA	GTTAATAAAT
35	GGTAGGGTGG	AGATTC AATC	TGTGTTACTC	TAAAGTCCGT	GTCCTTTTFA	TGGCTCCAT	GCCTACTCAG
	ATTTAAATCT	CAGCAGGGAA	GTAAACCTTA	GTTTTTACAT	GAGAAAATGT	TACAGCAGCC	TTCTCGGCTT
	CCTTTACCC	CATCCAGTT	TCACGAGCTT	AGTGCCTTAG	ATCGGGTTCC	TTTAGAAGCA	GACCTCGAAA
	TAAGGATGTG	GGTGCCAGTC	ATTTATTGAA	AAGATGATCC	CAAGAAAGCC	TAGTAGGAGA	GTGAGGAAGT
	GAGATGGGGA	AAGCAAGAAA	CTCCACAAGA	AGTGTGTTAA	TAAAGCAGTT	ACCGCTGTGG	GCAGCCATGG
40	GGCTCAGCTG	CACTAACAAA	CTCTGTCTAG	TACAGAAAAC	CTCAGGGTCT	CCCCAAGGAG	GGGCAAGAAG
	TCTGCCTAGG	GTATATATCC	GCCAATCAG	TCACTGGCTG	AGAGCTGATC	CTGGGAGGGC	ATGGTTAATT
	CCTCTGCACT	TTCAAGTGGA	TTCTGTGGT	CAGAAAAAGC	CCTCTACAAT	GAATTCAG	TGCTTGATT
	TAAATCTGAC	ATGATCTGAA	TGCTGTGTTG	GGACAGGGTG	GGCGTTATTA	GTTTTCTGTC	ATTACTGTAA
	CAGATTACTA	CAAACTGAT	GGCTGCAAC	AACACATATT	TATTATGTCA	TAGTTTGTGT	GGGTCAGAAG
45	TACAGGTTAG	CTCAACTAGT	TTCTCTGCTC	TAGGTTTAC	ATTGCCAATA	TCAAGGTGTC	ATCCAGTTGG
	GCCTTCTTGG	GGAGGCTTGG	GGATGAATCC	ACTTCAAGC	TCATCTCAGAT	TGTTGGCAGA	ATCCAGTTCC
	TTGTGGTTGC	AGGACCAAGG	TCCTGTGTC	CTTGCTGGCT	GTTGGCCAGG	AGTCATTCTT	AGCTTCTAGA
	GACTACCTGT	ACTCTCTGAC	TCGTGTCTCC	ACTTCACCTT	TCAAACCAGC	AGCGGCTAGT	CGAGTCCCTC
	TCTTCAAATG	TCTCCAATG	TGCCTTACC	TCATTCTCTC	TCTGTGTACC	ATGTCTGCCT	CTACTGCTTG
50	TAAGGGCTCA	TGGCATTACA	TGGATTTAT	TCAATCCAGG	ATAATCTCCA	TATTTTAAAG	CTAGCTGACT
	AGTGATCTTA	ATTCCATCTA	CAAAGTCCCT	TCCAATAGTA	CTGTATTAGT	CCATTTTCAT	GCTACTGATA
	AAGACATACC	CAACACTGGT	CAATTACAAA	AAGAAAGAGG	TTTAATTAGA	TTTACAGTTC	CACATGGCTA
	GGGAAGCCTC	ACAATCATGG	CAGAAGTCAA	GGAAGAGCAA	GTCATGTCTT	ACATAGATGG	CAGCAGGCAA

5	ACTGTGATGT	GTTTCTGAC	TGGTCCCTTA	TAGTCCCTCT	GCTTAGATGT	GGAACATACT	CATGAATGCA
	AGGGTTTGTC	TAGAGTTTTA	AGTGGGAGTT	AAATATCCAA	AGTACAGGAG	ATATTATGGG	TGCCTCATCC
	ATGTCCCCCT	GGCATTATATC	TTTCTTGAT	AACCCAACTC	TATTAGTTTT	TATATCTCAC	TTGTCTCTAT
	ACTCTGTGAA	CTGATGTCCC	ATAAATAGAC	ATTTCATTTT	GCCAGTCTTC	TTGAACAATA	ATTACGATTA
	TTAATCTAGC	AGTTATCAT	AATTGGCCAC	TTACACATTAG	ACACAGCACT	TAGGACATTA	GAATACCATT
10	TCATTTGATC	ATCAATAAT	GGTCAGGAAT	TAAGATTGTC	TATCCAAATT	TTACAAAGAA	GGCATTGAGG
	GTTAGAGTTT	AAATAACTTG	CTTAAGATGT	CATAGCCTGT	AAGTGACAAA	ACTAGGACTC	AAATACAGGT
	CCATCTGACT	CCAAAGTCTA	TGTTCTTGGC	TACCACACTG	CCTCTCTAC	AAGTGACCTG	TGGTTTTACT
	ACTATATTCA	CACCTACTA	ACTTTACCAT	CTCCCATGAG	TCTGTCTAGA	GGAGGGCACA	CACAGCACAG
	AAAACACATG	AATC AAAAT	AAGGAAGGGC	CTACTACTA	CACAGAGCCA	TTCTAATACC	TGATGTTTGC
15	TCTAATCCAG	TTTTACTATT	AATTAGTTGC	TGGTGCCCAA	GTTTTTACTG	AGAAATGGGG	ATAATTTTGG
	AAGTCATAAT	GATCCTTCT	TCTCATAGGG	TATTTTATTT	GTTGTTGTAT	CTCCAGGCCC	CAACACAGCC
	TGGCTTTTAT	TAAATGATCA	AAAAACCTG	TGATAGTAAT	AAATGGAGTC	ACCTGAAACA	TGTTAAACAT
	TTGTTTATGT	TGCCAATCG	TGGATTTTCA	GATAGTAAGC	ATCTCAAAA	GAAAGCATGC	ACACTGTTCT
	TGCTACATTA	ATTTCTCACA	ATATAAAAAA	AGAAAAGCAT	CTGAAAAAAG	CTGCCAGCCG	CTGTGTCTCC
20	TAATATCAAA	CTGAGCACAG	ATATGGAGAA	GCTAAGGGAG	AGGGATGATG	GGCCATGCCT	CTAACCTCAT
	CATGGCAAAA	GTCTGGGGG	TCAGACCCGA	GGAGAGCAGG	AAGTGTCTTT	TGAGGGATAC	ATTCCACAG
	TGGAAATAAT	GAGACTTAAA	TAAATATTAT	ATACACAGTT	CAACTGTTTT	TATGTGTAAA	GGTAGTAGGT
	TTTCACAGTA	AGGAGCACT	TCTTTTTTTT	TTTGTTTGAG	ACAGAGTCTC	GCTCTGTCTC	CCAGCCTGGA
	GTACAGTGGT	GCTATCTCGG	CTCAGTGCAA	TCTCTGCCTC	CTGGATTCAA	GCTGATTCTC	TGCCTCAGCC
25	TCCCGAGTAG	CTGGGACAA	AGGTGTGTGC	CATTACACCT	GGCTAATTTT	TGTATTTTTA	GCAGAGATGC
	GGTTTACCA	TGTTGGCCAG	GCTGATCTCG	AACTCCTGAC	CTCAGGTGTT	CTGCCGCCT	CTGCCTCCCA
	ATGTGCTGGG	ATTACAGGCA	TGAGCCACTG	CACCTACCAA	GCACTTCTAC	TGATAGCATT	TACAAAACCT
	TCTTAGAATA	TTTAAAAATT	CTAAGAGAAG	AGTAAATTGA	GCCTTCCCAA	CTAATACTAG	GAGGTTATAA
	CCTTCATACC	AAAAATGGAC	AATGCTTGCA	CAAAAGAAGG	AAGCCAATGA	GGCCACCTAG	AAGGAAGACT
30	GGGCATTGGG	CCCAGTGAGT	CCTGGAACCC	TCATCTGTGC	CAGCCACCCC	GGCATGGCCT	GTATGAGTGG
	ATGAGGGTGG	CTTGTCACA	GACAATAGCC	ATCTAGCTGT	GATAAGGGAG	TCAAGGTAGT	CAGCTGCATC
	CTTTTACCT	GTTTGCCAA	GTTACACAGG	TTGAAAAGCT	AAGGTTTATG	TAAAGCAAGC	ATCAAGAGATG
	ATGAAATGAT	CAACCTGACA	ATGAGTACTA	TGCTGCATTG	TCCAGAAAAGG	AACTGTGGAA	GATTTTGGGC
	TGAATTTCAA	AACAGAATTT	CCTCACTCTC	TGGATGTTGG	CTTACTTGCC	CTTTGATGTT	CAGAGGTGGT
35	GCCTTTGTGT	TGTTGAACAA	TGTTGATTTT	GGAGAGAAAA	CAGAGTTGAA	AAACCCACAA	GTCATTCCCT
	GGGGAGTATT	ACCGGAATAC	AGAGGATAAT	TTAGCAAGC	CAGCAAGGCC	TCATCTCTGC	TTCTAATAGA
	TAGGAAGAAA	GGAGAGAGG	AACAATACTT	TTTTAAGAAG	CTCAGCTTTA	TCGCCTTATC	TCATAGAAAG
	ATGCCTCCAG	CTCTGTGGC	TAAAGTAAAT	TGGCATGGGA	AAGTCTTTAT	CTGTGATTCT	AACAAGTGGA
	ATGTTTCCCT	TCATTAAGAG	AGCCTTGCT	GGCTTGGGGA	AATGAAACAC	TTTCTCCGAT	ATGAGTGGGC
40	TGTAACCCCT	GCTATAAAT	ACTCAGAAGA	AATAAGGCGG	TTGTGGAGCA	GTCAGGAATG	AGTCACTTGC
	CTCCCTGGAA	TATTAGAAA	ACTGAATCAA	AAGTACATTC	TTCTGGGTTT	TCTTAGTCTA	ATAGACTAAG
	GGTCTCTACT	TGTTAAATT	TCTGGGAAAC	AGCATAGAAT	GGGAGAAAAA	ACTGGTCACT	GTAGTCATGC
	AAATCTGCAA	AACAACAAA	AAAGTCTGGG	TATTGCTGCT	AACTAGCTAT	GTGACCTTAA	GCAAGGTATT
	AACTCTCTCT	GAATTTTCA	TTCTTCACT	GTTAAATAGC	ATATCTGTAA	AATGGGAATT	ATTTTTCATAT
45	CATAATGCTG	TAGCTTTAG	AAATAAAAT	AAATGGATGA	GATAATCAGA	ATTAAGAGC	CTGGGATATA
	TAGTTAATAT	ATAGCAGCAT	GTAAGAGTCC	TGTTAGAAAT	GCTAATTTTA	CAGTTAACCA	TTTGGAGATG
	ATCCGCCAAA	GCTGCTAGTG	TAGAGGCAAC	TGAGAATTTG	CCTGTCTTTC	AGAATATGAA	TAAATAACTG
	TCAATGATGT	CTCAAGCCTA	GAAAAACCTA	TCCATCTGGA	TGGGTGGGAA	ATTTCTAGGC	TAGTATTGAG
	AAGCCCATTT	CTTGAGAAAT	AGGTCTTGGA	CTGAGTGAAG	GAAAAGAAAC	AGTAAAACCC	ATGGTAAAGC
50	AGCAAGGCTC	TCTAGAGGCT	CTGGAGAGGA	TGAATTGAAT	TCTAGAAGAT	GAAGTAGGGA	AGACGCTTTA
	CCTTCTTGTC	AAATGATTC	AAAGATTCAA	AGACCTTCGG	GAATCTCCAA	TTGTATAAAT	GGCACCATTG
	CTGTATGTTT	CATGAAACAC	TACTTCCAG	AGATGCCCA	TGAAAAAAGA	ATGCCACAGT	CAAAATAGTT
	TGGAAACACT	CCATATATGT	GCCACCTCCT	TGAAGACTCT	AATGCACATT	AGCATGTTAA	ACAGTCTTGA
	GAAGTCTGTC	AGACAGAAAA	TTGCTTCACA	TCTGCTAAGC	CGGCAGTTTC	CCAATATACT	TGATTATGGA
55	TAGTTTTTTC	CTTACAACAC	CATTCTCTGA	TATGCTTCCA	ATGACATGAA	ATAAATATAT	ATGCATGAGG
	TTCTTCATTA	GGGCATACTT	TTTAATAGAA	AATATTGAGA	ATAATCTAAA	TATAAATGCA	CAGCATTTAC
	CTTTTCTGCA	TAAACTATAT	ACAGGCATAC	CTTGGAGATA	CTATGGGTTT	GGTTCCTTCC	ATATCTCCAA
	AACCCATTC	GGTTTATAGA	CCACTGCCAT	AAAAACGACC	ACATGAATTT	TTTGGTTTCC	CAATGTATAT
	CAAAAGTTACA	TTTTTACTAT	ACCATAGTCT	ATTATATATA	CAATAGCATT		

TTATGGAGTA TTAGAAATCC CTTGTTGTCA TTTCAACAAT GTTCACACCA TCTTCCCCAG GAGTATATTC
 TACCTCAAGA AACCACTTTC TTTGCTCATC TATAAGAAGC AGCTCCTCAT CCACTAAAGT TTTATCCTGA
 GATTGCAACA ATTCAGTTAC ATCTTCAGGC TCTACTTCTA ATTCTAGTTC TCTTGCTGTT TCTATCTCAT
 TTGTGCTTAC TTTC¹CCGCT GAAGTCTTGA ACCCTTAAA GTCACCTATG AGGGTTGGAA TCAACTTCTT
 5 ACAAACCTCT GTTGATGTTG ATATTTTGAC CTGCTCCCAT GATTCATGGG TATTCTTAAT GGCATCTAGA
 ATGGTGAACG TTTT²CAGAAG GTTTTCAGTT GGCTTTGCC GGATCCATCA GACGAATCCC TATCTATGGA
 AGCTATAGAT TTATAAAATG TATTTCTTTT TTTGTGGGG CATAGCGTCT CACCCTGTCA CCCAACCTGG
 AATGCAGTGG CACA³GTCATA ACTCACTGAA GACTCAAAC⁴ CCTGGGCTCA AGTGATTCTT CCACCTTGGC
 CTCCCAAAAC ACTGGATTAC AAGCTTGAGC CACTGTGTCT AGCCCAAAAT GTATATCATA ACTAATGAGG
 10 CTTGAAAGTC AAAGTGACTC CTTGATCCAT GGGCTACAGA ATGGACGCTG GGTTACCAGA CATGAAAACA
 ATACTCATCT CCTC⁵ATACAT CTCCTTCAGA GCTCCTGGGT GAGCAGGCC ATTGTCAAAT GAGCAGTAGT
 ATCTTGAAAG AAAATTTT⁶ TCTGAGCAGT TCTGAGCCAC AGTGGACTTA AAATAGTCAG TAAACTATGC
 TGTAACACAGA AGTC⁷CTGTCA TCCAAGCTCT GTTTTCCAC TGATAGGGCA AAAGCAGAGT AGATTTGGCA
 TAATTCTCTA GGGCCTTAGG ATTTTGGAA TGGCAAATTG AGCATTGGCT TCAACTTTT⁸ TTTTTTTTTT
 15 TTTTTT⁹GAG ACAG¹⁰AGTCTT GGTCTGTAC CCAGGCTGGA GTGCAGTGGT GCAATCTCGG CCCACTGCAA
 GCTCTGCCTC CTAG¹¹TTCCAC ACCATTCTCC TGCTCTGCC TCCTGAGTAG CTGGGACTAC AGGCACCCGC
 CACCATGCCC GGCTAATTTT TTGTATTTA GTACAGACGG GGTTCGCCA TGTTAGCCAG GATGGTCTCG
 ATCTCCTGAC CTCG¹²IGATCC ACCCGCCTCG GCCTCCCAA GTGCTGGGAT TACAGGCGTG AGCCACAGCG
 CCCAGCCTGT CTTCAACTTA AAGTCGCCAG CTGTGTTAGC CTCTAATAAG AGAGTCTGCC TGTCTTTCA
 20 AGCTTTGAAG CCAGGCATCA TTCTTCTC TAGCTATGAA AATCTTAGAT AGCATCTTCT CCCAATAGGA
 AGCCATTTT¹³ TATG¹⁴CCCTAA AAATCTGTCT TTTGGTGTAG CCACCTTCAT CATTGATCTT ACCTAGATCC
 GCTGGATAAC TTACCACAGT GTCTACATCA TTACTTCTGC TTCACCTTGC ACTTTTATGT TATGGGGATG
 GCTCCTTTCC TCTA¹⁵ACCTCA TAACTAACC TCCACTAGCC TCACATTCTT CTTTACAGC TTCCTCGCT
 CTCTCAGAGT TCACAGAATT GAAGAATGTT GGGCCTTGGA TTACACTTTG GTTTAAGGGA ATGCTGTGGC
 25 TGGTTTGATT TTCT¹⁶ATCCAG AACACTAAAA CTTTCTTCAT ATCAGCAATA AGACTGTTT¹⁷ ACTTCTTAC
 TATTTTTTGT GATA¹⁸CACTT TCCCTTTCCT TCAAGAATT¹⁹ TTCCTTTCTA TTCACAATT²⁰ GACCGTTTGA
 TATGAGAGGC CTAC²¹ATTTTA GCCAATCTCA GTTTACACCA TGCCTTTTTC ACTAAGCTTC ATCATTTTAG
 CTTTTTATTT AAAG²²IAAGAT GTGTGACCCT TCCTTTCATT TGAACACTTA CATGATGATG CCTGGCTTCA
 AAGCTTGA²³AA GGAC²⁴AGGCAG ACTCTCTTAT TAGGGGCTAA CACAGCTGGC GACTTTTAA²⁵ TTGAAGCCAA
 30 TGCTCAATTT GCCA²⁶ITAGAA GCCATTGTAG GGTAAATTAA TTTGCCTAAT TTTAATATTA TGGTGTCTCA
 GGGAAATAAG AGGC²⁷CTGAGT AGAGGGAGGG AGATGGGGAA ACAGCCAGTC ATCAGAGCAC ACACAACATT
 TATCAATTAA GTTT²⁸ATCACC TTGAGGGCAC AGGTCA²⁹TGAT ACTTCAAAAC AATTACAATA ATAAAAATAA
 AAATCATTGA TCGCAGATCA CCATAACAGA TATAATGATA ATGAAAAATT TGAAGTATTG TGAGAATTAC
 35 CAAAACGTGA CACA³⁰CAGACA CAAAGTGAGC ACATGTCATT GGAAAAGTGG TGCTGATAGA CTTACTTCAT
 GCAGGGTTGC CACAAATACT CAATCTGTAA AAAATTCAAT TATCTACATA GTACCATAAA AACAAAGGTAT
 ACCTGTTTAT ATAA³¹CAAGA CCAACAGAAC CCTAGAGAAA ATAGTCACT CCCTAGCTCG GAGACATTCT
 AACCAACATA CACT³²TACCTT TCTTTTGTCT GTGTACAGAA TTCAAATCCC TGTCTCAGCA AAATTGCAAA
 GTATCAAATG TCAT³³TTCCAT CTAATACTCA AAAGTCAAA TGTAAAGTCT TGTAAGCCCA GAGACCACTG
 TATATACAAG TGTT³⁴CTATA AGCATTAGTT CTCTCCAAA GAAAATAGTC CACTTGGTAG AAACAAACAA
 40 AAAGAAAAAA AAAG³⁵AAAGAA AAAACATTTT TTACAAGAAG ATTCAGTCTC TTACCTACAT AAGCAAAAAT
 ATGAGATGTT CTCT³⁶TATCAT TTTTCCATCT ATCTTATAAT CTTTGGTGCT GACTTAGACA CTCATTTTCC
 TTTTGTACG TGAC³⁷ATGTA AAAGTTCAAG TCAAGAAAAA CTTGTTTGA CATTGTITT³⁸ GCTGAGTGAT
 GGGTCCCTAA AAGA³⁹AATTTG GCTTGTCTTT TGAAAAGTTC AGCATGATAT TGTGTGAATT TTTCTGGCT
 45 AATGATTTT⁴⁰ AGAACAGTTG TGATGTGTTT AGGTGTTT⁴¹TA AGAATATGAA GCATTCAAGT GTTTAAGTTG
 GTTGTATATA AATG⁴²AAAGAA TATGAAGGAA AGCCTTCTTG TCTTAGAACA CACTGATTCA CAAATAAGCA
 GCTTCTCTCA AAAT⁴³TTGTA ATTACAAAAA TTCCAAGGCA AATATAATAA ACTCCTTGTC GGTGCTATGT
 CTAGAAACTT AACAGCCCCA AAGAAAGTCC TGACAAGGCA AAAAATATAT ATATATATAC AAATGTGGA
 AGCAGGGTGT TGAAAGAAGA ATAAAGACTA TATAAGGACA AACTGTTTAA AAGGGAGGGT ATCCTTGA⁴⁴AA
 50 GCTTGACACT TGAC⁴⁵ICTTTT GACGAGGCTG AGGGAAAAAC CTCAGTTTCA TAGATTGCTG GTACGGATGT
 AAAATAGTGA CATC⁴⁶CCTATA GAGAGGAATT TGGCAATATC TAGCAAAAGT GCTTATGCAT TTATTCTTTG
 ACCTAGTAAT CCCG⁴⁷TTCTA GGATTAGTGG TGAAGATACA CCTCAACAAT AAAAATATAT ATACATTAGG
 TTATTAGTTA TGGT⁴⁸TAATT TTAAATAGCA AAATATTTAA AACAACCTAC ATGAACAAAT AGGAGACTTA
 CTGAATAAAC TATGGTATAT CTGTACAATA AAGTGCAATT CACTTATGTT GTTAATTTGT TCCAAAAATC
 CAGAGCCAAA GAG⁴⁹TATTTGT TATGCTCTCT TTAGTATAAG AAAGGGGAAA TAAGATATGT GTGCATCTGT
 55 TTATTTTGT⁵⁰ GAAA⁵¹ATAAGT ACAGAAAGGA TAAGTAAGAA ACTAGTAAAA CTAGTTATCT CCTAGTGTTA
 GTAGAAATAG AATC⁵²AAAGTG AATTAGGCTT CTTTGAGTAT ATGTTTATAT ATAGTTTGA CTTTGAATT
 ATGTTTATGT TTACA⁵³TAGTC AAAAATATAA ATTAATCAAC AGAAATAACA AAAAAGAAG AAATCACAAG
 CTTTAA⁵⁴AATT TAAT⁵⁵CAAC AGAAATAATT GAATCTAACA GTATATCAAA GTGATAACGT AAACTCAGAA
 GAAAAAACA TAAT⁵⁶CCAACA TACCAGTGGA ACACAATATT CTAAGTGTAT ACATTCAAGT GTTATAGTCT
 60 AAGGACAAGA AAA⁵⁷ATTGCAA AAATATCTTG AACTTTAGCT TGTAGGATTT TTATTGGTAG CAATACTAAT
 GTACTAATTC TGAA⁵⁸ATTAAT GTTCGTGTAT TATAGAATTG AGTAAATGAA TAAATATGTT GATGTTATTG
 GGAAC⁵⁹AAAA TTAT⁶⁰CATTCT GGGAGTAGAG AAATATAAAT ATGGACTTGG CAAATGAAAC AAAGACCTGC

AGAGAGATAA CCA1ATAAAC TCATTATTTT AAAAAATTATA AGTGTCTAG CTCTGTTACT GAAAAGGCCT
 AGATTCAATC TTATCTTGAT AGACAGGAGG GCACCCCTTT CTCAGAACAT GGTTCCTAAA TGCCATTCTC
 CATTAAAAGG AACACGGTCT TCTTGGAGAA AAGACTGATT CTAGGTCTGG ATTAGGTAAA GTACAACGTT
 AGTCTGGGAAT TTCTTGCTGA ATCAGAAAGTA AGAAAAGTCT CAAAAACATG GGAACATGTC ACAAACACAC
 5 GTGAGGCAAC TTGAATCCTC ACTGGCCATA TTTAGGACAA TCGAGCATCA AAAAAAAAAA AAATGTTGAG
 AATAATGGAT TCTAACACTT AAAACAAAAA ATAATCCATA GCCCAGAGAA GGGGAAGAGA GGGGGAGCTC
 TTATTTACAG ATGAATATCA AATAGCAAAG ACAGAAAGAA TGACAGAATT AGAGAAACAT CATTTTGCAA
 AACACCACTG TAATAATCAA TTCAGGCAAG TATTATTAAT GGATGTATTA CTATTGCGTA AAACCAAGTTG
 10 GGGAACAGGA TATTCATACA GTCTGAAGGT GTCACCCTAA ACATAACTTA TTACAAGTGG AAAATGGTGC
 CTTTACAATG AAGAAATCTA GCAGAAACCA TCTTAATCTA GTGATCAAAAC TTAGTATCAC CAATAATGGA
 TCATACTGAG TCATCTGTCT CCTAATATGA TGCACCGGA AGGATGCAAC GTCATGAACG TTGTATTCTT
 TTGTATTCAA CAGACCAACC AGGGTAAAGG CAGCTTTCTC ACTTACTAAT CAGAATTGTT GGTTTTAATT
 CATTTTGAT TTTAAGATTT CTTACTTTCT TGTCAGCTCA GAAATTTATT TAAGATGATT TTTATCTTTT
 ATTCAATACT TTAGCTTGGA GAACCATTC A GAGTTTCTAA CTCATTGTAT TGCCAAAAAT AGAAAAACAGC
 15 ATGGTTTCTT TTGAAAATGT CTAACCTTAA AGTTACTTGT GTGTGTCACCT CAGATTCACA TAGCTTTTTT
 GCCTAGTAAT GTAGTATCAT GTGGCAAGGC TATAAAAAATG TTTACAATCT TTTATTTAAT ATGACTCTTG
 AGAGTTTATT CTAAAGGAAT AATTGAATAG TAACAAAAACA CTATTAACAC AAAGCATAGC AATTTGATTT
 GGGCAACCAA ACACCTGAAA CAACCTAAAT GTCCATTACA GGAATCATT ATGAAGCAA CACTAAAATA
 TTTATTGTGA AGATATGAG AACATAGAA ACAGTTATGA GAGTAAATTT GAAAACCTGA ACACAAAACT
 20 TACATATACT CCAATGTGTA CTTATAAAAA ATACGTGCAT ATAAGGATAA AACAGTACAA ACAAAAAAAT
 AGTTGCGTTA GATTGGTAGA ATTATGGCTC CTTTGTCTGT CTTAATTTT TCCTTTTACA TTTTGATACA
 TTATTTAAT TTTAATTTA AAATTCAAAA GAATTTGCCA CTCATCTTTG CCACTTCAAG GAAAAAGAA
 ATGTGTTGTA TTATCTGTT CTTAGTATAG TTTTGGCAAT TTCCTCACGT GTAAAAAGAG AATACTATTA
 25 ATAATTTAG TATCTATAAG ACAATATAAA ATTAAGAAT CTAGCCAGT AACTGGTACA TGGAACGTAA
 TTAATAAATC ATTAAGGACT TTTTCTCA CACCAAGTA GGGAGGAATC AGTGGTCCCC TAGAGGCCCA
 GTGTAGAGGT GGCAGCACA ATCCCTAGGG GAGAAGATCT TGGTGATGAT AATTCCTGAG CAGACAGTTA
 GCTGAGAATT CAAGAGCAGA AAAGTAAGAA AGAAACAAT TCTTGCTAAC ACCTTCCAC CCACGTTTCC
 CTGTTCTGTT GTACTGCT TACCCTTCA TGGATGGAG CAGAGGAAAAG AGAACCAAGT TTGCTCTTAG
 30 TCATTCACCTA TGTTCTTAA TCTGCCTTCC ATCTTCTTA TCAGTTCAA TTAGAATGTA GACCTGAATT
 TAAATCCCCG TTCTGTCAGT TATAATGTGA CCCTAGACAA AACACATTCT CTGAACCTCA GAGAACATTC
 TTCATTGTA GAATGGGAAG ATTAATCTAT ATTCCACTTG GATGGCAAGT CTTTATAAA CTTTATAACC
 TAAACATGTG TGAGTTGCTA GTATCATTAT GTTGGTAAAG TTATTCTGAG ATATGATAAC AGAACTGTTT
 35 TGCTAACTC CACTAGCATG GTTCAGGTT AGAGAGTGTG GAATTAAGG GCTTTATCCT CAAATATGAC
 TAAATCCGA TTTTCTCAT CCACCTTCC CCACAAACA ATCCTCAGGA AATGACAACT TTTACATGGT
 TAAACATCAG TTTTCTTAT TCTTTGACAT CCACATGTT AAATCATACA TTTGAAAAC TTTTATTTT
 GTGTGTCTA TGCTAAAT GAAAAGACT ATTGAGGAAT AGAAGACTAC ACATTTTCA GCAACACTG
 40 CACGTTTTGC AGAATTTCC CAGGCACCAG TCTCCAGGAA TTTATTGGCT ACTAACAATA CTAAGATATG
 GATGAATGAG GAAATCAAAA TGGAGATCTT GCAAGTTTG TGAGAATGGG TGAATGGTCC AAATGAAGAG
 ATAAGTTGTG AAATATTAGT ACAAGTAAAA ATTATTACA ATGAAAGACA TTTTGTCAAT AGCTATGAGA
 45 ATTTTACCAT TGACCCAGAA ATTCCATTTC TTTCTCAGA AATACCCACG TAGGTATACA TATAAAAGT
 TATTCATTAC AGTATCGTTT TTCATAGGAA AAAGTTTAA AAATCAGAA CTATCTAAAC TATGGTATAT
 CTAGGTGATA GAAATCAAAT GACTAAAAAT GTTAATATA GCATATGTT TTAATTAAC TTGGCTTGGG
 TCTTCAGCAA AATTGCTC TTAACATTGC ACTCCAGAGT TAGACTTACC CACTCAGTCA CTTATCTGC
 50 AGGAGCAGAC TCTAATACC ACATATCATA GAGCAGAGTA GGACACAGGT TCTCTGCAGG CAGGCAAAATC
 CCAAAGAGAA GGGAGGAAAG GGCTGAGACA CTGCATGGTC AATTTCTTCT GAACTCTGCA ATGTACGGAG
 GTGGACAGTG TCCACAAAGA TTGCTCCCT GGACCCACCA TCATAATAAC ACAACGGCTT TGTTTTGTTT
 TTGTTTTGT TTTTGACAC GGAGTTTGC TCTGTGTG CAGGCTGGAG TGCAATGGTG TGATCTCGAC
 TCACCACAAC CTCCACTTCC TGGGTTCAAG TGATCTCCT GCCTCAGCCT CCTGAGTGA TGGGATTACA
 55 GGCATGCACC ACCATGCCCC GCTAATTTTG TATTTTATG AGAGACGAGG TTTCTCCACG TTGGCCAGGC
 TGGTCTCAA CTCTTAACCT CAGGTGATCC ACCGTTCTG GCCTCCCAA GTGCTGCGAT TACAGGTGTG
 AGCCACCGCG CCCATGCCAC AATGGCCTT TGTTTACATC TCTAGTGCAG CACTCATTTT ATGTTCTTTC
 AAGAAGAATA CATATTTTCT CTTTTTATTT TATACAGCAA TTAGCACAGT GCCTGGCATA AGGAAAATGA
 TCATTAAGAG CTGGGTGAAA AACCTAATAA AGCTACTGAG GATAGGAACT GCAGACCAGC ATGGAAAGAA
 60 AACTATGAGC CAGATATTGA CATCATCTG AAAGGCAGAA GATTAGTAT AGGCAAGAAG TATGCTTTTG
 GAATATAGAA AATCTGGATT ATGATAAGAA AAGAATCATA TTTGTCTTAT CTACCTACT CACTTCTCAG
 TTCCACATGT TTCTGAGGCT GTTTGTCCTT ACTTTCTTT CTGTTTTATC CACTCTTCT GTTCTTTAGA
 TTGGATCATT CCTAATGAGC TGACATCAAG TTAACGTACC TTTATTTTG TCCAACTGC TGTATAAGT
 ATCCAGTGAA TTTTAACTT TATATAGTAT ATCTTTTAGT CCTAGAATT CCACATGAGT TTTTAAAGT
 TCCATTTCTC TGCTGAGATC TCCTATTGT TCATTCATTA TGACCATATT TTTCTCTACA TTATTGAGCA
 65 TAATTATAAC AGCTCTTCTA AAATCTTGT CTGCACATTC TAACACCTGA ATTATTCTGG GGTGAGTCTC
 TGTATACATT CTTATTACA AAAACAGTAT AAGTCACATT GCCTGTGTTT TTAATATGCA AAATGATTTT
 TGATTGCAGA CTAGACATTT TGAATTAAC ATTATAGAGA TTCTGGATTC TCGAGAGAGT ATTGACTTGT

00400 " 6 9 4 3 6 0

TTTTCCATC AGGCAGGTAA CTTGACTGGA CTCAAACTCC AAACCTCTAGG TCCTCTGTAA TGGGCAACTG
 CAGTAATCTT TGTTTAGTTC TTAAAGACTT ATTGGCCAGG CACGGGGGCT CATGCCTGCA ATCCAGCAC
 TGTGGGAGGC CAACGTGGGA GGATCACCTG AGGTCAGGAG TTCGAGACCA GCCTGGCCCA CATGGTGAAA
 CCCTGCCTCT ACTA AAAATA CAAAAATTAG CCGGTGTGG TGGTGGGCGC CTGTAGTCCC AGCTACTCAG
 5 AAGGCTAAGG CAGAGAATC ACTTGAACCT GGAAGGCAGA GGTTGCAGTG AGCCGAGATT GTGCCACTAT
 ACTCCAGCCT GGGTGACAAA AGCGAGACTC CCTCTCAAAA AAAAATTTAT TGGCACTGCT TGGCATCTGC
 TATGAATACA TGAAGTTCAT GGGTCAGCTA TAGATCTGGG CACGTTATAC ACAGAAATTG GGTCTCCCTT
 TCTCTGGATT TCTCCTTTTC TGGATTTCTT TTCTCATTTT CCAGCAGCTG TGGTTGCCCT AAACCTCGTC
 CTCTGTTTCT TTACGGCAGT AAGATTTGGG AACTTTTAGG TTTTACCTGC CTCTCAGACA AAATAAAAAA
 10 TAATTTTCAT CTGTATGCTA CTCCTTTCTT CCAGATGTAG ACACCTCTCT AATTTCCAGT TGCTTTTTAT
 TGCTCTCCAG TTATCAAGA TTATCATTGT TTTCTGTGG AGATGTGGTC TGATAAAAAA TACTCCCCCA
 AAACCTGGAAG CTGGAAGCTT GTAATTATGA ATAGACTTTG AGTAGTATTC TTCTTTGGAA AAGGATTTTA
 ACTACTCCCT ATGIACTTCT TTATTTCTTG TTTTCTCAT CCGTAATCTT TTTATTTTCA TACTTCCTAA
 GTCAGACAAT TTTCTACTT GAAGATTCAG TGAATGACCC CAAATGACCC CCATATTACT AAATACAATA
 15 TCCCCAACTG CATTATATAA AAGAAAATTT ACTGTTTATT AGTAAACAAT GTTGTAGAAT AGTAAAAATAT
 TGCTGGGCTT TGGAGCCAGA TAATCAAGGT TAGAATCCCA GATTCTAACT TACTAGCTGG TGTATTAGTC
 CTTTCTCATG CTGCTAATAA AGACATACCC CAGACTGGGA GACTGGGTAA TTTATGAAGA AAAGAGGTTT
 AATTGACTCA CAGTTCAGCA TGGCTGGGGA GGCCTTAGGA AACTTACAGT CATGGTGGCA GCAAGGAGAA
 GTTCCAAGCA AAGAGGAAA AGCCCTTAT AAAACCATCT GATCTTATGA GAACCTACTC ACTATCACGA
 20 GAACAGCATG AGGGTAACTG CCTCACGTT TAATTACCTT CCACCAAGTT CCCCCATGA CACATGGGGA
 TTATGAAAGC TATAATTCAA GATGAGATTT GGGTGGAGAA ATAGCCAAAC CATATAATTC CACCCCTGGC
 CCCTCTCAA TCTCATGTCC TCACATTTCA AAACCTCAATC ATGCCCTCCC AACTGTCCCC CAAGGTCTTA
 ACTCATTCCA GCATTAAGTC AAAAAATCAA GTTCAAAGTC TCATCTGAGA CAAGGCAAGT CCCTTCTGCC
 TATGAGCCTA TAAAAATCAA AGCATGTTAG TTACTTCCTA GATACAGTGG GGGTACAGGC GTTGGGTAAA
 25 TACACTGATT CCAAATGGGA GAAATTGCCA AAACAAAAGA GTTACAGACC CCATGCAAGT CCAAAACCCA
 ATAGGGCAGT CATTAACATT AAAGTTCCAA AATGATCTCC TTTGACTTCA TGTCTCACAT CCAGGTCACA
 CTGATGCAAG AGGTGGGCTT CCAATGGCCT TGGGCAGCTC TGCCCTGTG GCTTTGCAGG GTATAGCCTG
 CTTCTGTGTT GCTTTTCAC AGGCTGACAT TGAGTGTCTG TGGCTTTCC ATGAGTATGG TGCAAGCTGT
 TGGTGGATTT ACCATTCTGG GGTCTGGGCC AGGTGCAGTG GCTCATGCCT GTAATCCCAG CACTTTGGGA
 30 GGCTGAGGTG GGGCATCACA AGGTGAGGAG ATCGAGACCA TCCTGGCTAA CACGGTAAAA CCCAGTCTCT
 GCTTAAAAAA TACAAAAAAT TAGCCAGGCG TGGTGGTGGG TGCCTGTAGT CCCAGATACT TGGGAGGCTG
 AGGCAGGAGA ATGCGGTGAA CCCAGGAGGT GGAGCTTGCA GCGAGCTGAG ATTGTGCCAC TGCATCCAG
 CCTGGGCGAC AGACCAAGAC TCCATCAAAA AAAAAACAA AAAAACCATT CTGGGGTCTG GAGAATGGTA
 GCCCTTACAG CACCACCAGG CAGTGCCCCA GTGGGGACTC TGTGTGGGGG CTCTGACCCC ACATTTCCCT
 35 TCTGACGGC CCTAGTAGAG GTTCTCATG AGGTCTCTAC CCTGCAGCA AACTTCTGCC TGGACATCCA
 GGCATTCCA TACATCTCG GAAATCTAAG CCGCGGAGGT TCCCAAACTT CAATTCTTGA CTCCTGTGCA
 CCCACAGGCT CAATACCACA TGTAAGCCAC CAATGCTTGG TCAGGGCTTG AACCCTCTGA AGCAATGGCC
 TGAGCTGTAC GTTGACACCT TTTAGCCTAG ACATCTAGGA CACAGGGCAC CATGACCCGA AGCTTCATAA
 AGTGGGAGGG CCTGGGACT AGCTGAGGAA ACCATTTTTC CATCCTAGGC CTCCAGGCCT GTGATGGGAA
 40 GGGCAGCCAT GAAGGTGCCT GACATGCCCT GGAGACGTTT TCCCATTTGT CTGGGTAAC TACATTTCAGC
 TCCGTGTGCA GCACCAACTT ACTTATGCAA ATTTCTGTCA CTGGTTTGAA TTTCTCCCCA GAAAAACAGGA
 TTTTCTTTT CTATGTCATC ATCATGCTGC AAATTTTCAA ACTTTTATGC TATGCTTCCT GTTGAAGACT
 TTGCGGCTTA GAAATTTCTT CCCCAGATA CCCAAATTA TCTCTCTCA GTTCAAAGTT CCACAGATAT
 45 CTAGGGGACA AAAAGTTGCC AGTCTCTTGG CATAGCAAGA GTGACCTTTA CTCCAGTTCC CAACAAGTTT
 CTCATCTCCA TATGAGACCA TCTCAGCTTG GACTTAGTTG TCCATGTTAC TATCAACATT TTGGTCAAAG
 CCATTCAACA AGTCTCTATG AAGTTTCAAA CTTCCCCATG TTTTCTGTG TTCTAATAGC CCTCCAAATT
 TTTCCAACCT CTGTCTGTTA CCCAGTTCTA AAGTCACTTC TACATTTTGT GGTATCTTTA CAGCAGTGGC
 ACTCCCCATG GTACTAATTT ACTGTATTAG TCTGTTCTCA TGCTGCTAAT AAAGACTTAC TCGAGACTGG
 50 GTAATTTATA AAGAACAGAG GTTCAACTGG CTCACAGTTC AGCATGGCTG GGAGGCCTCA GGAAACTTAC
 AAACATGGTG GCACCAAAGA GAAGTTCCAA GCAAAGAGGG AAAAGCCCCT TATAAAACCA TCAGATCTTG
 TGAGAATTCA CTATCATGAA AATAGCATGA GGGTAACTGC CCCCATGATT AATTTACCTC CCACAGGGTC
 CCTCCCATGA CAGGTGGGGA TTATGGGAAC TACAATTCAA GATGAGATTT GGGTGGGGAC ACAGCCATAC
 CATGCCAGCT AGACAGCCTT AAGAAAGTCA CCTAATCTCC ACAAATAAAA GGTTTCTTAT TTGTTCAACA
 55 AAAATAATGA CACCTCTTTT ATGGGATTTT TGTGAGGACA AATGATAACT AACATAGCCT TGCATAGTGT
 CTGGCACAAA ATACTACTC AAAAAATAAT AGAAACAACA TTAAAAAAT GTAGACTTTA TTTTITAGAG
 TTTTATGTAC AAAGCAAAAT TGAGCAGAAT GTACAGAGAG TTTCCGTATA GCACTCCCTA CCCCCAAGCA
 CAGATAGCCT CCCCAGTAT CAGCATCCCG CACCAGAGTG GTACATTTAT TATAACTGAT GAATCTATAT
 TGACGTGTCA TTTTCATCCA AAATCCATAG TTTATATTAG ACCATTATAG TATCATAAAG CTTGTATTGG
 GTTTTGACAA GTTATAATG ACATGTATTG ACCATTATAG TATCATAAAG AATAGTTTCA CTGTCTAAAA
 60 AATCTTTGAT CTTCCTCCTA TTCATCACTC CCTCCCCATT AATCCCTGAC AACTACTGCT AATTTTCTCTG
 TCTCCATTGT TTTGCTTTT CCTGAATGTC ATATAGTTTA AATATACAGT ATGTAGGATT TTCAAACCTGG
 TTTATTTCAC TTAGTAATAT GCATTTGATG TTCTTCCATA TCTTTTCAAA GCTTCATAGT TCAATATTTA

TAGAATTGAA TAAATTCCCA TTGCTGGAT GTACTACAGT TTATGTATTC ATTCACCTAT CAAAGAACAC
 CTTGGTTGCT TCCAAGTTTC AACAAATCATG AGTAAAGCTG CTATAAACAT CTATGTACAT GTTTTTTTGT
 GAATTGAACA TTTCAGCTT TTTAGCTCC ATTCTAGGA GTGCAATTGC TGGATTGTAT GATAAGGGTA
 TGTTTAGTGT TGTAAGAAAC TGCCACGCTC TTCCTAACTG GATGTAATGT TTTGCATTCT CACCAGCAAT
 5 GAAAGAGTTC CTGTGTCTCC ACATACTCAC CAGCATTGGG TGTCGTCAAT GTTTTGAGCA ATAGCATTTT
 GATCTAACTT TTCTTAGGTA TTCTTTTGA AGGAAATAAT ATGACAGATA ATAGAGAAAG GATATACGAG
 GACAGTCTG TCTTTATT ATAGTCCATC ATTTAATGAA GGACTCTGTC CACACTTGGT ATTTTAACT
 CTGATCCTCC TCTCCTCATGA ACTCTGACAA TCTCCTAAAT CCCTGTTGCT GGCACACATG GTTGTGTATC
 10 AGGCCCCCTG TGGTCTGTCT GAAGCATGGC TTTTTTTTTT TTTTTTTTTT TTTTTTTGAG ACGGAGTCTC
 GCTCTGTGCG CCAGGCTGGA GTGCAGTGGC GCGACTCTCG CCACTGCAA GCTCCGCCTC CCGGGTTCAC
 GCCATTCTCC TGCCICAGCC TCCCGAGTAG GTGGGACTAG AGGCGCCCGC CACCACGCTT GGCTAATTTT
 TTGTATTTTT AGTAGAGCGG GGGTTTCACT GTGTTAGCCA GGATGGTCTC GATCTCTGA CTTGTGTATC
 CGCCCGCCTC TGCCTCCCAA AGTGCTGGGA TTACAGGCGT GAGCCACCGC GCCCGGCCTT TTTTTTTTTT
 TTTTTTTTTT TTGAGATGG AGTCTGTAC TCTGTACCC AGGCTGGTGC AGTGATGCAA TCTTGCTCA
 15 CTACAACCTC CATCTTTCAG GTTCAAGTGA TTCTGCCACC TCAGCCTCCC AAGTACCTGG GATTACAGGT
 GCCCGCCACC ACACCCAGCT ATTTTGTGT ATTTTTAGTA GAGACGTAGT TTCACCATGT TGGCCAGGCT
 GGTCTCATTC CTGACCTTGA GTGATCCACC TGCCTTGGCC TCCCAAAGTG CTGGGATTAC AGGCATGGGT
 CATCACATGT GGCTGAAGC ATGACTGTTG CTTAATCAT ATGAAATACT GCTCTGTATT GTTATCTATT
 20 TGAAATGCCA CACTCTCTGA GCTAAATTGC AAGCTTTTAT GGAGCAGAAA CCATATTTAT ATATATTAGC
 ATGATACCAT GACAATATC AAAAGCTGTT ATATATTGTT ACGTGAATTG ATTCTTCTC AGTTAAGAGG
 ACCTCTGTAG TAGCACTTTC ATACCGTTAA TTTTTCATTT TGTGCCCAGC CCCTACTCTG TGAAAAATGA
 AATGAATCCT GTTATCATTT CCCTCCCAGG CCTTTTCTCC TTGTGGACAA TGTGTGGCTC AAGAGAAAAAT
 TCAGTCAGTA AATTGTGTCA GTGCACAAAC TCTTTATCAC CTCTCACTGT TCTCAAGTGA GATAGAACAG
 AACATCCATC CAGTGTCTTA CAAATTGTCT GGTATATAGT AGGCACTCAA TAAATGTTTT TTGAATAAAT
 25 GCATACATGA ATCCTATTCC TATATATAGT ATGGTAGACA GATCATTGAT ACCCAAAGAT GCCCAAATGC
 TGATCCCCAG AACTGTGTA TATGTTACAT TTCATGTCAA AAGGGACTTT GCTAATGTGA TTAAGGATTC
 AGACCCTTGG ATTTAAGAT TATCCCGGAT TAACCAGGGC CAATCTAATC ACATGAGACC TTAAGGATTC
 AGAAAACATT TCCCAGCTGG GTTAGAGAGA GATGAGACAG AGTAAAAAGG AAAGAGATTC AGGGCATGAA
 AATGACTCTA CCACTGTGTT CTGGCTTTGA AGATAGAGGA ACTAGGCCAC AAAACAAGGA GTATGAGTGG
 30 CCTTAAGAAA TAGGAAAAAG CCCTCATCTG ACAGCCAGCT AGAAAGCAGT CCTCTGACCA CAAGAAATTG
 GATTCTGCCA ACCACTCAAA TGAGCAAGGA AATGGATTCT CCCCTAGAAC CTCCAGAAAG GAACACAGCT
 CTGTAATGCC TTGATTTTAG CCAGGTGAGA CCTGTTTCAG ACTTTTGACC TATGGAAATA TAAGATAATA
 AAGTTTTATT GTATGCTGCT AAATTTGCGG TAGTTTATTA CTGAAGCAAT GGAAAGCCAA TACAGACAGA
 ATATACAGAG AGAAGAGAAA TGAGTTCTTT CCTGATAATT TGTAATATT TGGGTCTTCA CTGGACAAGC
 35 TTCACAGAGG ATTCAGTGT TCCCTAGCAA ACCAGCATGT CCAGTCTGTC AGCCTCCCTT TCTTAGGCCC
 AGCATATGTC AGCTGTGTGC ATAGAAAAAT CAAAGCAGGA CCCTGAGTAG TTGGAAAGAA TGTGAGTTG
 GAAATGGGTT GCACCTCAAG TGAGGAAACA AGAGGTAGGA GACCGGCATC TCTTTCTCAT ATGTCCAGG
 CTGACTCTTG TGAGTTGTTT TCCCTTGGAG GCTATCGATG ACAGTCACAG TAACCTGATG GAACCTGGAT
 CATGATGAAA GAAC TAAGTG TCAATGGCTC CGACTTCCAA GGACTCTGAT GTCCACAGC ACTAGCTAAA
 40 CAAAGCCAGT TGGAAATGAG CTTAAATGGG GAATTTCTCT AATATATTCC CTATTGTTAG GAAGCCAGGT
 TGGCTTCTTT GCCTACAATT ATGCCAAGCA GTCACACTAT AGAGTCCCTA GGGACATGAT ATTAAGTGAT
 TCTTTTAAAC CAAAACAATT AATAATCATT TATACTAATA GCAAAACGGC CAACGGCTGA TATTCCACTT
 GAAGTAGAAT TGCTATCCA ACTGGAAGAG AAGACAGGAA GACGTGATCT CCAGGGAGCT ACTAAAGGA
 45 TTGGCACCTG CCTCTGGATT CCCCTTTTCC TTATATTACC TCTCAGCACT TCTCAGCACT TATTTCAGGA
 TACAGTTTCA CAAGTATTAT GTCACGTCTC TGAGAATTAT GTTGGTAGAT ATTTGCTCCT CTGGCCAGAA
 AGACCTAGTT TGGAGTCTGG AGTCATGAAG GTGACATACA TGTAGCTAGT GACATAAGTG TAGCTAGTAA
 AAATAGTGAG TAATGGCCCT GAAATTCTAT TGAATGCCCA AAGTGCTGAC CAGGAACAAG CATGCTCTAG
 CTTATCTCAC AAGGAACCTG ACAATTTTCT TCAAAAATCC TAGTAGCTAA GATTTCTTAG TAACAAAGCC
 ACTAAGGCAC AATTATGATT AACTTGACCC TTAGGTGACT TTAAAGGACT ATTCTATAAA ATATTACAAC
 50 TAATAGTGGA TCCAAGCCAG CACACTCTGC TATATAAGT TAATTGACAG TGTCCACACT GGTAAAAATA
 GTTGTTCAT AAATACATTA GAATTCATTT GCACTTTCTA CACAGCCCA AGTCCAGAAC TTTCCCAGA
 ATAGGTCTAT GTTTIGCAAT CTGCTACTCC ATACAGAGAT TTGAGTTCAC TTGGCAATTT AGTGCTGCTT
 ATATGTGACC AGTTAGTCTG TTTTACTTAT CTATGCCTTA AACATTACTA TACTTACTAA CTCCAAGATG
 CCTGGTCTCA ACTTGACAAA AATACCCCAA GTTGGGAAAT CCTTATGTGA ATATGTAGAT AGTCACAATT
 55 GCTGGTTGAT GATGATCTGT CTTTCTCTGT ATTTGAGAAA ATGGAGATAA AATGGACCAA TCCAATAAAT
 GGATTAACAA TGGGAATAGG TGAGAGAGAG AGAGGAATAC ATGGTGGCTC TCAGTGTCTG GCTTAGGCAG
 TAAACACTTT CGTTAATAAA GACGGAAAAT AAAAAAGGAA TAATTGGTGT CTAGGGGAAA ATAATGAGCT
 CAAGTTTAA CACTCTGAGT TCCCGGATGT GAGACATCCA GCGCATTTA TCCAAGAGG AGTTGGAAGC
 AACGTTCCGG AGCTTAGGAG AGAGGCATGA CCAAAAGCTG GTGGGACTGT GAAAAGGTAT GGCCATTCTG
 60 GAAAACGTGT TGGCAGTTTC TTAGAAAAAT AAACATGTAC TAACAACCCA GCAATTGTAC TCTTGAGCAT
 TTGTCCAGAA TAAATGAAAA AAAAAAAAG CATTTTTTTT ACACAAAAAC ATATACATGA AAGTTCATAG
 AAGTGTATT CATAAAAAAC TGGAAAAAAC TGAGATGTCT TTATTGAGTG AATGCTTAGG CAAACGGTGG

004040 " 0294360

5	TCTATCCATA	CAAT3GAATT	ATGCTTAGCA	ATAAAGAGAA	AAGAACTATT	GATACATGCA	ATAACACAGA
	TGAATCTCAA	AGG^ATTAA	GCTGAGTGGG	AAAAAAAGCA	CATCTCAAAA	TGGTATATAC	TGTACTATTT
	TATTTACTTA	ACATTTTAAA	AATAGCAAAA	TCATAGAGAT	GGAGAACAGA	TTAATGGGTA	CTGTGTTTTG
	GGATGGGGAG	TGACAAAAGG	GTAAGGTGTA	AATATAAAGG	GGTAGCACAA	AAGAGCCTTG	TGTTTGAAGG
	ATTCTATGTC	TTGGTTGTAG	TCGTGATTGC	AGGAATCTAC	ATGTGATAAA	ATTGTATGGG	TCTACATACG
10	CATACACAAA	AGAGCATATA	AAACTGGTGA	CATGTGAAGA	AGCTCCGCAC	ATTGTGCCAA	CATCAGTATC
	CTAGTTTCAA	TATCAGACTA	CAGTTATACA	AAACATTGTC	ATTGAGGGAA	ACTGGGTAAA	GGGAACACAG
	GACATTTGGC	ATAIATTTTT	GCAATTTTCT	GTGAATCCGT	AATTATTTAA	AAATAACAGA	TATACTACAT
	ATCAAAAAAT	TAAIGTCATA	AAGTTGATGA	GTTTACCTAG	TGGATAGCTT	TGTTAATATC	TGCTATAAGA
	CTACTGAAAA	TGACAGTTAT	GCAAGTATAA	GCTCAGAGAA	CTTTCCTCCC	CCTTCGTAAA	TGAAATGAGC
15	AAAAGAAATG	AAACAGGAAA	GGCAAGCAGT	ACTGAAAACA	GGGAAGGGCT	CTTCCCCATA	TAACTATATC
	TGCGACTTCA	ACACCTATTC	ATCCAGAAAC	ACAGCCTCTT	GCGCTAAGAG	GAAACTTTGG	ATAACAATAT
	GTTTTCACTC	TCCAAGAGAG	AAAATGGATA	GATTAATTTT	TAAGAAAAAA	AAAAAAACCT	CACCAATTTT
	ATGCTGTGGC	TTGCACCTTT	AATCCCAGCT	ACCTACAAGG	CTGAGGGTGAG	AGGCTTACTT	GAGCCCAGGA
	GTTCAAGGCT	GCAATGAGTT	ATGATTGATT	GTGCTATCGC	ACTCCAACCT	GGAGTACTAA	GCTAAGAGCT
20	AAGAACACAG	CTGAGAGCGG	AGAAAGAAAC	AACAATCTG	ACCAATAAC	CCCCTCCCC	CTATTTTACT
	GGAGTGAGCT	GAGACTGCTG	GCAAAATG	CCTTTGACCT	AGCCTGAACT	GTAGCAAAAG	TCATCAGATA
	TTTTTCCACC	AATCAACAGA	CAGAAGTGGG	GAGAAAACAA	TCGTAGTTCA	TAACTACAAC	AAGCAGATAA
	ACGAAGGCCA	TGGTGAGGGA	TGGAAGACAT	TGTGATATAT	CAAAGGCAGG	CTCATTTAAA	ACTCAACCCA
	AATTCCAAAC	AAAATATATA	ATTGAATATG	TATTAATGCC	AAAGGAGCTT	GAGTGAGCTT	TAGCACAAAC
25	CCCGCCCTCC	AGCCCCACC	CAAAAAAATC	ACTCTGTTCT	CTCCCCATTC	TTTGATAGGC	ATACTTGCTG
	TTTTCTCACA	GCCAAGGTAC	AGAGGGGACT	TAGAGGAACT	AGAACTCTAA	TACACTGCTA	GCAGGAATGT
	AAAATGAAGC	ATCTACTTCA	GAAACCATT	TTATCAGTTT	CTAGAAAGTT	AAACATAGAC	CCACCATGAT
	GCCAGGCAC	TCTACTCTTA	GAAATTTACA	CAAGAGAAAT	GAAAACGTGT	CCCCACACAG	TTGTATTTAA
	AGGTGATGGT	TAGCTTGTTG	TGTCAACTTG	GCTAGGCTAT	AATACCCAGT	TACTGAATCA	AATAGTAATC
30	TAGGTGCATC	TGTGAAGGTA	TTTTGTAGAT	GTGGTTAACA	GCTACAATCT	GTTGACTTCA	AGTAAAGGAG
	ATTGCTCTTG	ATAGTATGGG	TGGGCTTCAT	CCAATCAATT	GAAGGCCTTA	AGAGCAAAAA	GTAAGGTTTC
	CCGGAGAGAA	AGAAATTCTG	CCTCAAGACT	GCAGCTCAA	CTCCTGCCTG	AGTTTCCAGT	CAGCCAGCCA
	GCCTAAAGAT	TTGCTAGGCA	TTATAATCAC	ATCAGCTAAT	TTCTTAAAAAT	AAACCTCTTT	ATATATATTG
	ATACATGAAT	TGGTATAGC	AGCCTTATTT	GTAATAGCCA	CAAACCTGGA	ACAACCTAAA	TGTCCTTCAA
35	TAAGTGAATA	CATAAACAAA	TGTGGGTATA	TCCACAATTT	TTACGCAGCA	GTA AAAAGGA	ATAAATGGTT
	GAATAAGGAA	TAAACACATA	ACAAGGATGA	ACCTTAAAC	CGTAAGGCTG	AATGGAAAAA	GTCAGACAAA
	ACTAATACAT	ACTGAATAAT	TCCATTTATA	TTGAAGTTCT	AGAAAAATGAG	GACTAACCTA	TAGTAACAAA
	AAGCAGAAAA	ATTTTGCCCA	CTGGTGATGG	AGGGGGCGCA	GGTATTGTAG	AGTATCTGAG	AAAGGACAAC
	TGGATAAAAG	GGGGCACAA	AAAACTTTGG	AGGGTGATTG	ATATGTTTCT	TATCTTGTGG	CATGTTTCTA
40	TAGGTGCATA	CATATGTCAA	AACATCAAGT	TATACACTTT	TAAAATGTTT	AGTTTACTGT	ATATCTATTA
	TACTTTCAGT	GAGAGGAAGG	AAGAAAGTGG	GCAGGGTGGG	GGAGAGGAAA	GGAAACGAGG	GAGGAAAGGC
	CCTAATAGGA	AGGATTTTGG	AGTTTAGATT	TTAAAAATGAT	AAAGGATGTT	TGACACTCTA	GGCATATGAC
	GAATATAGGA	TTATGATGCC	ACAAAAACCA	CCAGGAAGTC	ATGTATGTTT	ATACTTTTAA	GTGAAGGATC
	AGTGGATTAT	CAACTCCCTA	ATGCTTTGCC	TCTCTATGAC	TGGCTGCTGT	CCTTCTCATC	CCAATACTCC
45	TTCCAAAGCC	CCTTGCTTAA	ATGTAAGCCT	TCTTTCCTCC	TTTCAACACA	TCCTGCATTC	CGTGACAAAA
	TAAGTTTTCC	TTAAACAGAA	TGTACAGCAT	ATTATTTGTA	CAATTA AAAA	TTTTTGCCCA	GGTGTGATGA
	CTCATGCCTG	TAATCCAGC	AATTTGGGAG	GCCGAGATGT	GTGGATTACC	TGAGGTCAGG	AGTTCGAGAC
	CAGCCTGGCC	AACATGGTGA	AACCTGTCT	CTACTAAAAA	TACAAAAAAT	AGCTGAGTGT	AGTGTGGCAG
	GTACCTGTAA	TCCCAGCTAC	TCAGGAAGCT	GAGGCAGGAG	AATCGCTTGA	ACCTGGGAGG	TGGAGGTTGC
50	TGTAGCAGAG	GATCAGACTA	TTGCATTCTA	GGCTAGGAGA	CAGAGTGA	CTCGGTCCCC	AAAAAGTTAC
	ACATTTTTTT	TTAAATGTTT	CTCCTTGCCT	GTAGGAAAAA	GGCTCTGACT	CCTTAGCCTG	GGCATCAGAG
	CTCTATCTAA	ATGGACTTTA	ACCTGATTTT	GTGGCACTAA	TTCCATTGCA	GTACTTGTCC	GCTCACTGGC
	CTGTGCCTCT	CTGCCACTAT	TTTTGGAATA	ATGTCCTCTC	TCCATCTTGT	TTACTCAACT	ATATCCAACC
	TCTAAGGCTG	TGCTCTTACA	AAGCCTCCCC	TGGCTACTTC	AGCCACAGAG	GATATTTTAA	TGCTCTGCAG
55	TTCAGGACAT	TCTTCTGACT	CTTTAAATCA	CATTTACTTA	TATATGATCT	TGTGATATTT	TTTGTTGACG
	TGTTTTACTT	AATTTCTTCT	CATAACCTAT	TCATTCAACA	AACTCAACAA	TTATTTATTA	AATGCCAAGT
	TAGAAAAATA	TTAITGATTT	TATATGATTT	ATAGATATGT	TTGAAATTTT	ATTTGGCAAT	CTGCAAGTAG
	AAAAATAAAT	ATAATGTGGT	ATATCTGTGA	TAGAAGTATT	AGTGACAGAG	CTGTGGGGAA	CATAATCCAG
	CCTGGAAGTT	CAGGAGAGAT	ACGTGGAAGA	AAGGACGTCA	GAGCCTTTTT	CCTACAGGCA	TGGAAGAAAC



5	TCACTACAAC	TATTTTCTGA	TTGCTATGGT	GATAGATGGT	TTAAAAACAAG	CCTTCATTAA	GAATTGTCAC
	ACCATGGTCT	CAGTCAAAAA	CACCAACATT	TTTATTGGTA	TTGACAATTA	TGGGAATATC	CAATTCCAAG
	AAGACAAGGA	GACCTCTGAA	CTTTCTAAAT	GAAGACTCCA	ATCTTCCTGA	TCTGATGGGA	AGCAGCTTGG
	CAAGATTACC	AACCACCACC	ACAGAGAGTG	GACTCTAAGC	TAAGACTTAA	AAGATAAGTA	GAAATTATCC
	AGGTAAGAAT	GTGTACACAG	AAGGAAGTAC	ATCCAGGGGA	AAAGACAAT	ACGTGCAAAA	GTACGGAAAT
10	GGTAAAAAGT	AATACACAT	AGTCAAAGCC	AAGCAGAGTT	CAGAAGGGAT	CTGGTGGTGA	AAAATACGGC
	TAGAGAAAAGC	AGCAAGGATT	GGCTTCTAAA	ACCTATGTAG	TATCTTGGAC	CTTACCCTAA	ATGTAATGAG
	AAGCTTCTAA	AGAACTCTTC	ATTTATTTCAT	TCATTGAACA	AATATTTTGA	GGCTTTCTGT	GAAGAACATC
	ATTCTAAGTA	GTAAAGATAC	AGCAGTGAAT	AGGACACATA	AAATCCTAGA	TCTCACAGAA	TTGACATTCC
	AGAGAGGGAA	AGGTAGACAA	TAAATACATA	AACAAATCAT	TTAACAAGAT	GATTTTCAGAC	AATGGTACGT
15	ACTGTGAAAA	AAATGAAACA	AGGTAATGGA	CAGCGAAAAAG	GCACTGGAAG	GAAGCCTGCT	TACCTTTGCG
	TGGTTAGAAA	AGATCTCTCT	AAGAAAAGAGA	CCACATGTGA	GCTGCGACCT	GAAGGATACC	GAGAAGCTAG
	GTGTGCAAAAG	ATGTGGGGAG	AGAACTTTTG	GACTGAATAG	CAAAATACAA	TGCCCTTGGG	TGCAAGCTTT
	GCCTGTTCAA	GGACCAAAAA	GGAAGGCCAGT	GTGCCTGCAG	CATACTAAGC	ACAGAGGAAA	ACACTGTTAT
	ATGCTGAGAT	TGGAATTATA	AGTAGAGCCA	GATAATATAG	TCTCTTATAG	GTCATAATAA	GGCAACCAGA
20	TTTTATTCCA	AGAGGATTTA	AAAATCACTG	GAGGTTTTGC	ACTAGGGTGA	GAGGTGTGAT	TTGTATTTTT
	AAAAGATAAT	TCTGGAGAAT	TAACATAAAT	GAGGTAGGAG	TAAACTAAGT	TAGGGGCTAT	TTCACTGGCT
	CAGACAAGAG	ATAATGGTAG	CTTAGACTAG	GATAGTAGTC	GTAGAAATAA	ATAAAAGTGG	CACTCTACTT
	TGGGGGTAG	GTCTATAATA	GGTTTGGTTT	ATGGATCATA	TATGAGAGTA	AAAAAAAGAA	AATAAAATTA
	TAATGGTTCC	TAGGTTTGTA	CCTTAGCAAC	TGAATAAATG	GGTGCTGTGA	ATTGAGATAA	AGGAGATTGA
25	GAATCACAGG	CTTGTTTTTG	CAAATTAATT	TTGAGAGGCT	TATTAGACAT	CCGAGTGGAG	ATTCAGGGTG
	AGTGGAGCCC	ATTGAAAGGT	AAGGGACAGG	GTCAGGTGTG	GTAGGTCAGG	CCTGTGATCC	CAGGACTTTG
	GAAGGCCAAG	GCAGACAGAT	CAGTTGAGCT	CAGGAGTTTG	AGACCAGCCT	GGGCAACATG	GGAAAAACCT
	GTCTCTACAA	AATATGCAAA	ATATTACCTG	GGCATGGTGG	CATATGACTG	TGGTCCAAGC	CACTTGGGGG
	GCTGAGATGG	GAGCATCACT	TGAGTACAGG	AGGCGGAGGT	TGCAGTGAGC	CAAGATCTCG	CCACTGCAAA
30	CCAGCTTATG	TGACAGAGTG	AGAACCTGTC	TCAATAAATA	AATAAGAAAC	GTAAGGGAAA	AGGAAATTA
	TCTGATCATT	GGCAATGTCA	TAGTATTTAA	AGCCAGGGGA	GTAGATGAGA	TACTCAAAGT	AGGTGAAGAT
	AAGGAGGCCA	TGAAGGCCTA	GGACTCTGGT	GTACATTTAG	ATGGTTATAA	GAGGAATAGA	AACCTGGCAA
	ATAAGTAACA	CTGAGCACCC	AATGAGGTGG	AGAGGAAAGC	CAGGAGATGA	AGCATCATAG	AAGGCAAGAG
	AAGAAGGGTG	TCAAGAGAGC	GAGGCAGTCA	TCAACTTCTG	GGCAGTCAAA	TAATATAAGG	ACAGAAAAGT
35	GACCATTGGA	TTTGAAAATA	TGATGAGCAC	TTTGAGTGGA	GTGTTGAGAC	AGAAGACCAA	TTAGAGTAGA
	TTGAGGAGAT	AACCAGAAAT	GAGAAAATGT	AACCTGCAAG	CACAGACAAT	TCTTGAGAGA	CTTTTCTGTG
	AAAGGAAAAA	GACACAGAGT	CTTAGCATGT	CTTGTCTTTC	TATGGGAAAT	GTAATAAGTT	TGAGACTCAGG
	GATAGTATTT	TATTTCTGCT	TTTGTACCTC	TACATTAACCT	AGCATAGAGC	TAGTAATGT	GCACTTAAGT
	ATGTTCTCAA	TTCTATATCG	CTGAATGACT	GGATGGGTGA	AAGAATGGAT	GGATGGATGG	ATGGATGGAT
40	GGAAAGGATG	ATGGATGGAT	GGAAGACTTC	TGATTTGCCA	AGAAGAGGAT	ACTGGTAGCA	GAAATAAAAA
	CAGCACTGGA	GAAAGAAGAG	TTTAGATTTT	TATCTTTTGG	TGTCAGTTAG	ACAGGAAAGT	AAGACATTAG
	AAGAGTCCTT	AGATAATTTA	TGTAATTGTT	CACCTAGGAT	TTTTAAATGT	GATCACTGAT	ATTGGACATG
	TTCTAGTGTA	AGCAATTTTT	GTGTTTCACT	GGTTGAAGTT	AATAACTGTA	AAATATTTC	CCGTTACAGGA
	CAGAAAAACA	GAAACTTTGA	AGCTCCTATT	AGAAAGTTCA	AGATTTCTTG	GGGTTCTTAG	GATTTACTGT
45	TCCCAAAACT	CTGTCAAGAA	CAAGAAAAATG	ACCTGTATAC	TTAACTGGTC	TAGGCAACAG	TGGAAAGACA
	ATTCTCAGAG	AAGATTTTGT	TTAAGAAGAC	ACTTTCCATA	GGAATCAAAC	AATAGCTTTC	AGTGACTAAC
	ATGGTAAGAC	ACAGGGTGTT	AGCTCTTTCC	TTCCAACCTC	ATGGCTGTTG	TACCTTACCT	TTCGACCCCG
	TGTTCTTGAA	ATTGTTAAAT	TCATAAACTT	ACCAAGGACT	AACCAGCCTC	TGGGGAATTG	CTGTATACTT
	AGCAAACTTA	CAATGGACAT	ATTTATAAGC	CATAATGATA	ACTGACTAAT	AGGAAATACC	CTCAACTGAA
50	AATGAGAGAT	CATCAATTTG	AAATGAGTTC	CCTTGCCCAG	GCAACTACTG	GGGAAAATGT	CATGCAAGCA
	AAATTAATCT	TTGAATCTCT	CCTTTTCCAT	TTTTTGTTCT	TTCTTTTCC	ATAGGCCACA	GAAATATCAT
	GGTGCTTGGA	TCTCATCTCT	ACAGAAAAAA	AAAGTGATT	GATAAACTGA	TTTATATTGT	GTCCAAATGT
	GATTGTATTT	TCAAAGATAA	CCTAAGGGGA	GAATGCTGTC	TGGCCCAACA	GCAGGCTCTC	GACTTCATTT
	CAGACACTGT	GGCC AATGGC	TGGGAAACAG	GTATGAACAG	TAGGTTTCTG	AGTCCCCTGG	AATTATTCCA
55	TTTATGTAGC	CACCTCCATG	ACAGGAAGCC	TCCCTACTCT	TACTTCCAG	TTGTTCATT	CATGGCACCA
	GGTTCAGAT	TAAATATTGC	TCAGTGACCT	TTTATCTAAT	AATGTGTTAC	CTTCTTCTCT	TAAAAAGTAC
	AAGGGACAAA	TGCCTCATGGT	ATACTTTTAG	GAGATTGTGG	CTCTCTATTA	ACAGTATTTA	TTCAACAAAC
	ATTATTGAG	CATTTATATG	TGCATCATGC	TAGGGACTGG	AACTTAGTAA	GTGTAGCACA	TATTATTTCA
	TTTAATCCTC	ACAACAACAAC	CATGAGGTGG	GTTTATGAT	CCCAATTTTT	CAGAAGAAGA	AACGTATATT

1990-1991		1991-1992		1992-1993		1993-1994		1994-1995		1995-1996		1996-1997		1997-1998		1998-1999		1999-2000		2000-2001		2001-2002		2002-2003		2003-2004		2004-2005		2005-2006		2006-2007		2007-2008		2008-2009		2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017		2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		2022-2023		2023-2024		2024-2025		2025-2026		2026-2027		2027-2028		2028-2029		2029-2030		2030-2031		2031-2032		2032-2033		2033-2034		2034-2035		2035-2036		2036-2037		2037-2038		2038-2039		2039-2040		2040-2041		2041-2042		2042-2043		2043-2044		2044-2045		2045-2046		2046-2047		2047-2048		2048-2049		2049-2050		2050-2051		2051-2052		2052-2053		2053-2054		2054-2055		2055-2056		2056-2057		2057-2058		2058-2059		2059-2060		2060-2061		2061-2062		2062-2063		2063-2064		2064-2065		2065-2066		2066-2067		2067-2068		2068-2069		2069-2070		2070-2071		2071-2072		2072-2073		2073-2074		2074-2075		2075-2076		2076-2077		2077-2078		2078-2079		2079-2080		2080-2081		2081-2082		2082-2083		2083-2084		2084-2085		2085-2086		2086-2087		2087-2088		2088-2089		2089-2090		2090-2091		2091-2092		2092-2093		2093-2094		2094-2095		2095-2096		2096-2097		2097-2098		2098-2099		2099-2100		2100-2101		2101-2102		2102-2103		2103-2104		2104-2105		2105-2106		2106-2107		2107-2108		2108-2109		2109-2110		2110-2111		2111-2112		2112-2113		2113-2114		2114-2115		2115-2116		2116-2117		2117-2118		2118-2119		2119-2120		2120-2121		2121-2122		2122-2123		2123-2124		2124-2125		2125-2126		2126-2127		2127-2128		2128-2129		2129-2130		2130-2131		2131-2132		2132-2133		2133-2134		2134-2135		2135-2136		2136-2137		2137-2138		2138-2139		2139-2140		2140-2141		2141-2142		2142-2143		2143-2144		2144-2145		2145-2146		2146-2147		2147-2148		2148-2149		2149-2150		2150-2151		2151-2152		2152-2153		2153-2154		2154-2155		2155-2156		2156-2157		2157-2158		2158-2159		2159-2160		2160-2161		2161-2162		2162-2163		2163-2164		2164-2165		2165-2166		2166-2167		2167-2168		2168-2169		2169-2170		2170-2171		2171-2172		2172-2173		2173-2174		2174-2175		2175-2176		2176-2177		2177-2178		2178-2179		2179-2180		2180-2181		2181-2182		2182-2183		2183-2184		2184-2185		2185-2186		2186-2187		2187-2188		2188-2189		2189-2190		2190-2191		2191-2192		2192-2193		2193-2194		2194-2195		2195-2196		2196-2197		2197-2198		2198-2199		2199-2200		2200-2201		2201-2202		2202-2203		2203-2204		2204-2205		2205-2206		2206-2207		2207-2208		2208-2209		2209-2210		2210-2211		2211-2212		2212-2213		2213-2214		2214-2215		2215-2216		2216-2217	
-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--

[illegible]

5	TAATGTTAAA	TGATGAGTTA	ATGGGTGCAG	CACACCAACA	TAGCACATGT	ATACATATGT	AACAAAACCTG
	CACGTTGTGC	ACAIGTACCC	TAAAACTTAA	AGTATAATAA	AAAAATATAT	ATATATATAT	AAAAACAATA
	AAAATAAAATC	TTCTTTTCT	GCAGGATCAG	TCCATCACCA	CACACACAGG	CTGTGTTTTA	TGTTGTTCCT
	CAGCTTAAGA	GATCGTTCTC	CAGATCCCAC	TGCTCCTTCC	AGTTGTCACC	TCAGTCTCTC	ACTTCTTTTT
	GCTGATAAAC	TACCTAACT	AGTTACATAT	GATTTCTGTC	CCCAGGTCCC	CTCCCTCAGT	TGTTTTGAAC
10	ATAATCATTT	ATAICATTTA	TCATTTTAC	TCTAATTGCA	CAACCAAAAA	CTCCCTTTTT	TTTTAGATGG
	AGTCTCACCTC	TGTACCTAG	GCTGGAGTGC	AGTGGCATGA	TCTCGGCTCA	CTCCAACCTC	CGCCTCACGG
	GTTCAAGTGA	TCCCCTGCT	TTAGCCTCCT	GAATAGCTGG	GATTATACAC	ATGCACCACC	ACACCTGGCT
	AATTGCTTTG	TTTTTGTTTG	TGTGTGTGTG	TGTTTTTTTT	TTTTTTTGGG	CAGAGTCTCA	CTCTGTTGCC
	CAGGCTAGAC	TGCACTGGCA	TGATCTCAGC	TCACTGCAAC	CTCCACCTCC	TGGGTTCAAG	CGATTCTCCT
15	GCCTCAGCCT	CCCGAGTAGC	TGGGACTACA	GGCATGCACC	ACCATGCCAG	GCTAATTTTT	TTGTATTTTC
	AGTAGAGACC	AGGTTTACC	ATGTTGGTCA	GGCTGGTCTT	GAACCTCTGA	CCTCAAATGA	TCTGCGCACC
	TGGAGCTCCC	AAAGTGCTGG	GATTACAGAC	TTGAGCTACT	GCGCCGGGCT	ATTTTGTGTT	TTAGTAAAG
	ACGGGGTTTC	ACCA TGTTG	CCAGGCTGGT	CTCAAACTCC	TGACCTCAAG	TGATCCGCTC	GCCTCAGGCT
	CTCAAAGTGC	TGGCATTA	GGAGTGAGCC	ACCATGCCTG	GCCATAAAAC	TGCCCTTTGT	TAATATGACT
20	GTTGGCCTGC	ACAITGTCAA	ATCCAGTGGC	ATTTCATCTA	CTCGGCCAAC	CTACGGCATT	TGACACTGTC
	TGTCTTTTCT	TCTGTTCTCT	TATCTGTTTC	CAGTATACTG	GCCTGGCTTT	CTTTTTACCT	CTTTTATATG
	CTCTTCCAGT	CTCAGGCTCC	TTTGGGGATT	TGAAGGTATG	TTGCATTTTG	CTATTCAATG	AATAATGACA
	AGTAATGATC	ACTTAAGACA	TTAAGTGGTC	AGTTCCTTTA	CTAGGATAAA	AATAATTTTC	TTCCCAACAT
	GGGGCATATT	CCAATTCCAG	TCTGACTGTT	CTGTGTAATC	TTTGTATTCC	TGGGCAGCCC	CTTTTATATC
25	AGTTCATCTA	CTGTGCAGGA	AATTGGACAA	ACATTTGCAC	TGGTATAACC	AAATACAGTT	GAACTTTTGG
	CTGACTCTT	AGCTTAACTC	ACCAAAAAAT	ATTTCTGTAA	GAGACTGAGA	CGTCTACGAG	TAGGTTTTTC
	AGAATTAGTA	AACAATAATC	AAGGATACAC	AGGTGAGATT	GGAATTCAGA	TAAACAACAA	ATACTTTTTT
	AGTATGTCTA	CTGAATAATT	TGTATCTTAT	CTGGCAATTC	TACCTGGTAC	AGAACAATAT	CATTCTCTTG
	AAAGATCTTG	ACTCTGTAAT	AAGTTCCTTG	GTGATGGAAG	GGAGGTATTT	CTGTAATTAG	AGTCACTGTC
30	TTCTCTCCAG	TTTTTATCC	TGGCCAGAT	CTGCAATGAA	CACACGACAG	AATCCAGGGG	GGATGAAGAT
	GGGTGCTTTG	CAGGAAAAAA	AAATTAATAA	CATCTGAAAA	AGCTTTTGTA	CTAAAAGAAT	GTGATCTAAA
	AAAGAAAGCA	GGAAACTTTT	CTGTCTGCAC	TTTACATCAG	AACAACCTTG	GCGTCTAGAA	GCTGTGCCCT
	GTGGGAAGTG	GTGGTGCTTG	GTAAGAGATG	CCAGGACCAG	TGGTACCCAC	TGGGAGCACT	GCCAATACCC
	AGCAAGGAGC	ATGGGTGCAC	AGTAAGGCAT	TGCATGTGTA	TTCAGCTATA	AATAACAATA	AGGGAACGTC
35	ACCGAGAAAA	GGCATAGACT	CCTTTGTTTA	GAATGTGGGA	AATGTCTTCT	GAAAAATGGT	AGTAAAAAAG
	CATGCTTGGA	TGGTCCACTC	CAGGCAAAAC	TGACTAATCG	GGGGTCAGGG	ATACAACCCC	TGCATCATAT
	GTTTGTTTCT	GTTGGGCTGA	CATGAGGTTT	ACTGTGACCA	CTGTGGTTTA	ACCCCATAGT	CTCCTGAAAA
	TACAGCCAGG	TCAAGAGAGC	TCCACATAAA	ACATAATCAA	AAAAATAAAC	TCAAGTTTCC	ACTGATCAGC
	TTTTACAAC	TCTTATCCTT	TCACTAACTT	TGGAGCAAGA	TTTGAGAATT	GGATGGCTAT	TTGAGGGCTA
40	TTTCTGCGCT	TTAGTTCAAT	GTTTTGTCT	TTCTTTATTA	GAGAACTATG	GTTTTTTATT	ATATTTACAC
	TTTAAGTTCT	AGGGTACATG	TGCACAACGT	GCAGATTTGT	TACACAGGTA	TAAATGTGCC	ATGTTGGTTT
	GCTGCACCCA	TCAACTCGTC	ATTTACATTA	GGTATTCTCT	CTAATGCTAT	CCCTCCCCAC	TCCCCCAC
	CCCCGACAGG	CCCTGGTGTG	TGATGTTCCC	CTTCTGTGT	CCAAGTGTTC	TGTTTATGTG	ATAGATTACG
	TTTATTGATT	TGTGTATGTT	GAACCAAGCT	TGCATCACAG	TCACTTGCTT	ACAAGAAACA	AACACTTCAC
45	AGATGGATCA	TTATGTGTGA	TAAGTGAAAT	CCAAGGATTT	ATGCTCAGAG	GTGGGCTTAA	CAGGTAGGAA
	GAGCAGTATT	TTCTTCAAC	CATGAGTGTA	TGCAGGTTT	TCTTTCTTT	TTTGAGATGG	AGTCTCACTC
	TTTTACCCAG	GCTGSCGCGC	AGTGGTGCGA	TCTTGCTCA	CTGTAACCTC	TGCCACCTGG	GTTCAGCAA
	TTCTCCTGCC	TCAGCCTCCC	AAGTGGCTGG	GATTACAGGC	ACCTGCCACT	GTCTCCGGCT	AATTTTTGTC
	TTTTTAGTAG	AGAIGGGGTT	TCACCATCTT	GGCCAGCCTT	GTCTTGAAC	CCTGACCTCA	TGAATCATCC
50	TTCTCAGCCT	CCCAAGTGC	TGGGATTACA	GGCATGAGCC	ACTGCCCTCA	CCCCACAGGT	TTTTCAAGA
	CTAAACTTAA	AAAAAAAAAA	AAAATTTCCC	AATGAAATAT	AAAACATAAG	TGCTAAACTG	TGATAGACTG
	TTTTACAAGA	ATGCCAGTTT	TCACAAGTGT	CTATAGAACA	TGTAATTTAG	ATAGGTAAGA	TGAAATTTTG
	ATAATATTTG	ATGGCAAATT	TAAACAGGTA	TACAACAAAA	ATAAAATTCT	AAGCCCCCTCA	ACCAACTGAA
	TGGACTCCTT	CTCTAGCCA	AAGGAATACC	AAAGTAAACC	TGAAAAACTA	GTTTTGGCCA	GGATTGGGGG
55	TAGGTGGGGG	AAGCCCAACA	TGACTCATTA	TTCTCTCCTC	CCTTTGGAAT	TCAGGCACAA	CTGAATGTCA
	GCATTGACAC	TAAAACACAG	ATCTTAAAGC	TGACAAGCCA	GACTCTTTGT	AGCAGAGAGC	CAGGCCCTGG
	AAGAAATCAA	GTTATTTTAT	CCCAAAAAAT	ATTTCTTTGA	TATATTTTCA	AATGGCCCTG	CAAGAGTGTC
	TCTTGTTGGG	AAAATTGACA	TGCTGTACAG	AATTTCTTTC	TCTTTCCAAG	TTTTTACTGA	TCCAGGAGAG
	ATTTAACTAA	GAGGCTAGCA	TGTTTTTTTT	TTTTTTTTTT	TGAGGCGGAG	TCTTGCTCTG	TTGCCCAGGC

[illegible]

TTATATGTGT TGATGGATAT CTGCCTGTAA CTTCCATTCC CCTAAAATGT ATAACATCAA GCTGTAACCC
 AACCACCTTG GGCA.CATGTT TTCAGGAACT CATGAGACTG TGTTCAGAC CTTGGTCACT CATATTTGGC
 TCACAGTAAA CTTC.TTTAAA TATTGTATAG AGTTTGGCTT TTTTCATTGA CACAGGAAAA ATAAAGAATT
 5 GGAAGGTCTT TCA1CAGTCA CTGAGCCAGC TTCATATCTG ACTGAGGTCA TACAGTTCAG TGATTTGTAG
 CTTTGCTACT TAGA1TGCTA TCCATTATCT AGAAGCATCA GGATCACGTG GGACCTATTG GAAATGCAGA
 CTTTCCTCCT AGAAGCCAGG ACCTTGGAAT ATTCTTGGCA CATAGTAGGT GCTCAATACA TATTGAACTC
 CTAGGTGCAA TTC.TTAAATT CATGAATTAA TGAATTAACA CGCTCTCAAA GTTTAGTGCT TTTTCACAGA
 CTAGTCTTTC TGCC1CTTAA GCACTCAGCT CACCACGCTT CCAGTCTCAC TCCCCTATTA GTCTGATTAA
 AATCTGCTTA CATGTGAGTC TGAGATCAAG TGTATCTCT TCTGAGAAGT CTCCCTCAC TGGCCCAAAG
 10 GAATTTCTCC TCTATTTTAG CACTGTCCCA GTTGACTTGT CATTATTCTA GTCTTTTTC TATTAGTTGT
 TTTTCATATA TATG1TATTA AGGAAACTAG TCATTTCCCC TAATAGAACA AAATTGCTGG CCTTTGGGGT
 TGGCAATGGA GGGGAGGCTC TTCTTGAAAA GGGGAAGAG TGTTCCTCTA ATATTTTCT TACGAGATT
 ATGTTGCTCA TCTT1AGCCT TTAGTCCCCC ATTGCCTGCC TACAGTTGGC AGAGACCATC TGTTCTCTCA
 CTGTCAGGAA CTG1CTCAAT TCTTGAAGTT CAGAGTCAAA AAAGAAGCAA GTTTTCCTAG CTCTTTGATC
 15 AACTTTCAAA GTTT1ACTTC CATTTGAAAA TTTACTAAGT CACCAGGAGA TGGTTTATAC TGAGAAATAT
 CCACTCATAC TCTTCTCTT CAACTTTCTT CCATATACAC CCTATTACAG GGATATAGTC TTA CTCTATA
 GCTCAAAAGG ATGA1CCCTAT CAGAAACCTG CACAGTATGT AAAACATTCT CACCAGAGGT TCACTGTGT
 ATTTCCACCC TAGA1TGGAA GCTCTACAAA AGCACAGAAT GTATCATTTT AACTTTAGAT TCTATTTTCA
 CACCCAGTGC TTGA1CACATG ATTTGAAAGT AATATTTATT TATCAAGTGA TTGTTT1AAA ATCATGACTC
 20 ACTCAACAAA GTTA1TAAGAA TAAGAATAGT GTTACAGAAT TGGTATACAC AAGCTGACCA TAATCAACAC
 ACCTATTATC ATTT1TTTGC GACAGGTTCT CGCTGTCTCA CCCTGGCTGG AGTGAGTGG CATGACCACG
 GTTCACTGCA GGT1TGAAC TCCAGGCTCA AGCAATCCTC CCACCTCAGC CTCCACATA GCTGAGCCCA
 CAGGTGTGTG CCAC1CATGTC CAGCTAACTT TTTAATTCTT TGTAGAGACA GGGTCACCCT ATGTTGCCCA
 AGCTGGTCTT GAAC1CTCTG GCTAGAGAGA TCCTCCCTCC AAGGTCCCC AAAATGCTGG GATCTCAGGC
 25 AAGAGCCACC ATGC1TGCC CATAATCAATA CACTTT1AAG AATGCTAGAA TGTATATCA GATGCATACT
 TCAGCACTAT CTCAAGCAAA CTGGGGTGTG GGTATTTCTA CATATAAAGT TCAGCAGTGT TGTTCACAG
 TCCCAAACTC CAACTGAGG CAAATGTAGG GTGCAGCAAG GTCAGTGGG CTGTCATCAA GGGCCTCTCC
 TTGCACTCTT GCCA1CCCTG TTTCTTGATT GTCTCTACCA CCATGAGTCA CCAGCAATCT CCCACAGTCA
 30 CTTGTTTAAA AGTT1CACAAG TATTGTGTGA ATTGCAGGCA ACCCCTTGAC TCCCTGATTG CCTGGTCTTC
 TTCCTTGGG TCTA1CCATT TTTTCCCA GCACCTTTT TGCTGCTCTA AATTTTAAAT CATGCAATTC
 CATATGTGTT TCTCTATCAT TCTTCATCTC TTTCTCTCC CTTCATCCA ATTTTGTGTT TCTGTTTGT
 TGCTTGCTTG CTTT1AATACA TTTCTCTTT TCTGAGAAGG CTTGAGTCCA AAATCTCAG TTACCTGTTG
 TTCTGTTTCC CGTT1AGTTAA TCTCCGAACC TTCATAAATT AAATCTGACA AAGTCCCCTG ACTAACAAAG
 35 GAAATGCACA AGTC1ACAGTA AAAGGGGCAC ACACAGAACA CAAATAGACC CAGGGTCTTT TCTGTTTCATC
 ACTCAGCTTT TTATAGGAGA TCCAGGAGAA ATGAAGTGGA AAGGGAAGTG TGTGAGTTA CTATACACA
 CAAGAGTAAA CTTT1CTTATA AGTGGTAATT TTTT1TTACA GGAATAATTG AAAATGGAATA TTACCTCTC
 TACTCATAGT AAGT1ACTCAG TGCCTTCTTG ATGGGATGAG AATGTGTTTG AGCTTTAGTG TAAGGCAGAA
 TTCTGTTTAG TCTG1CAGTA TTGGAGAAAA ATAAAACACA AAGGGACTGA CATGTAGGAA GTGGCACCTG
 40 GGAGGGTCTC AAT1CTTCTT ATTACAAAAA TGCCCCAGAG AAATAAAAAG CTGTGTACA TGTGAGATG
 GGAGAGTTCT CTGG1CCCCC TCGCAGGATG TGTGACAGTG GGGTGGCTCT CTGCTGCGCC ACCATGAGCT
 CAAACCCCTC ATAGGAGGGG GAGCACACAG GCAGGAAGGT GCAGGAGCTG GCGGAGCTCT TTGGGCTCTG
 GCCCCGTGTT ACTG1CTAGA GGTGGGTGCC TGCAACTCCT TGCAAGTTTC GCTCAGTTT TCTTGGTAT CCAGGTCTCT
 ACTCTTTCAG CTTT1CTGTC TGCAGCTTAA CGTTTAAACCA GCTCAGTTT AGGATGAATG TGGGAGTTT ATGGAGTGGT
 45 GTCTGGCATC CAGGAAGAAT CAGGTTACAC ATGGACTTGA AGGATGAATG GGAAGATGAT ATTCTCCTGG
 GGAGGTGGCT CTCAGTGGGA TGGATGGGGA GCTGGAAGGG GGATGGAGTG GGAAGATGAT ATTCTCCTGG
 AGTTTGGCTG TCCAGCAGCC GATCTCCTCT CCAGCTGCTC CCAGCCTCTC GACGTTTACA TGCTCCTCT
 CTCTCTTCT CTGC1ATGCT GTTCTGCCGT TCATCTGCC TCTCTCTCT GGAGCCTGGA ATTTGGGGTT
 TATATGGTAC ACA1TAAGGG GCATGGCAGG CCAAAAGGGA ACTTTT1AGG TGCAAAAAAC AGGAATGCCT
 CTTCTCACTT AGGG1CTATAG ATTTTCAGGC TTGAAGGTGG GGCCTTTACC AGCGAACCTG TATTTCCCTG
 50 TCTCCTGTGC ATAT1AATGT AATCAAATAC TGGGTGATC CAGGATGTTT CTTTAGACCA ATTATGGGTA
 AAATAATTTA CAT1CAGGTT TTTATATTTG CTTTGTCTAT TTCTTTTAA GCAATCATGT AAAATATCTA
 TACGACAGTA ATAC1TGATA GCGAACCTAA TTAATAATTAC CAGAAACTTA AGAATCTCTA ATGATTTCAA
 CTGTAACATA GGT1ATTTCT CTTTATGTTG AACAATGTTG GGAGATAAGA CACAAGAGTT TCTGAAGTAT
 TTCAGAAACA CAA1GAGGGA GGTATATATA ATAATATTT TTTCTACTT TGGGAAAATG AAAGCTAGTC
 55 ACAAAGTTAA ACG1GTGGTT ATTTTAATAT TTAATAATACA GGCTTGATG TATTTCTGT TAAAGAAAAT
 AAAATGCAGA ATA1TCAAAA CGTCTGACCA CCCTTCTAAG AAAATGCATC TCTGAGGTAT TTTTCCTTAG
 AAGTTATTGT AAAA1ACCTG GAGAAGCTTG AACACAGCA AGCAAACAGG ATGCAGAGTT TAATCTGTGG
 AAAGCTTAGG GAAC1AAAAG AAATCATTA AAATAGGCT TCTCTGAAG ATTTT1AAA CGCAAAGAGG
 GTGGAATAGC AATC1ATAATA AAAAAGCTGG CATAGAGAGT GGCACAATT GCTGTGCCAC TGAGCTGACT
 60 GGATGTGTT TGA1TTTCTA GGCATTAGTG TACCTTTCCA CACGCAATT CTCTAGGACA TTTTAGACAC ACAGAAAGAA
 CACACTGAAT ACT1TTTCTA TGCAATTTAA AATAAGCGCA CCATCTAGTT TACAGAAATT CACTAGAAGT
 TATTTATCCT AAAA1TAGCAG AGATCTAGAA GAATTTTGAG CTCTAGGACA TTTTAGACAC ACAGAAAGAA

5 GAATCTGGAC AAGCTTGAC CAGACATGAC AGAATAGAAA TTTCTTTTCC TATTTATCTC TTTGAATAAA
 ATTTTCAGGA TCTTACAGTG GACAAGTTTG TTATCTACAC ATTGTGAAGC ACATTGATTT CTCCTCTGTA
 GCCTTAGGAA GATCTGAGAG GTGACTGAGC ATCCGTGACC GCTCTACTGG GCTCTACTAGT GACCAGTAGT
 AGAACTTTAC TGGTGGAGAC CTGCTGGAGG TTTGAGAGCA GACTTTGAAA ATTACTAGAG CTACACAGAT
 10 ACTGTGTGGC TAAC TGGATT ATGTTTAGAG GCTTTCAGAA CTATGCTGCT GCTGCTGCAG TGTAGCCAGG
 ACGCACAGAG AACATCTAAG GCTCTGAAT GGGGCGATAG GGACAGATTT CAGCAGCCAT CTGACTTCAG
 TGCTCATTTT GATGCTTTCC CTGCAGGGTG CAGTGTGCAG TGTGCAGTGT GCAGTGGTGG GAGGCTCACA
 CAGGAATACT TGCCTCTGTA GCCCTAATTT CCGGTTCAAA CTCTGCATT CACCTTGACAG ATTCTTTCCT
 TGGCCAAAAT TTACTTAGGC TTCTGGGCTT TCTCTATGCT CCACCTGCAG ACTTTTGGT AAAATCCAGT
 15 TTTAGTAAAG AGCTCTGCTA AGTCAGTTTA GCAAGAATCC CCACCTCAAA AGTCACTATC TCCCTCCCTG
 GTAGTGTCTG GCTTGTCTTC AGCGAGAATT CTATTAGGTT CTGTTAGATT AGAATCCTCC TTACCCTTGA
 TGCTTCCTCT TAGTATTTT TCATCCACTG ACTCCTTGAC CCACCTTGCT CCTCGGCTAT AAATTCACCAC
 TTGCCCATAC TCTGCAGTTA AGACTATTTT CTCCCCACTA CTGCAAAAATC CCATTGCCAT GGTCCCTATA
 CTATCTCAAT GGTAATGAAT AAAGTCTGCC TTACCATGCT TTAACAAGTA ACATTGAACC ATTTTTTTCT
 20 TTAACAATCT GCTGCACAAT GAGATTACTA AAACCTTTAT CCATTTTGCC ATGCTGGATG TCCTCAATGG
 AATGGCTCTT GTGAGCACCA AATCATTGTG AGAAGGAAAA CCCATCTCT ACAGCCCCCT GTAACGTGAT
 GTATGTTACA TGTCATGTAT GTTACATAGT TTTTTTTCAT GTTGATCACT TTTTGCCCAT TTTCTATAT
 CTTATCAGTT GGAAGACTGT GGAAGTTTGT AGTACTAAGC CACAAGATGA CTAAGAAGAG TTGAAAGGGC
 AAGTGGGGCT AAAAACAGAT TTTGTTTGAC TTACCCCACT ATTCCCCCTA TCATGGGGCT GAATCTGCCT
 25 GGAGGAAGGA GCACTTTTAT CTTGTACTG TGAACCAAC AGTCTAGCAG CAGCACAGCC AAGGCACCTG
 GGGTTTCATG AGACTAAGTA CATGCAATTC TATTGTAAAG GCTTAAATA TATACAACTG ACCCTGAAAC
 AACATGAATT TGAATTGCAT GGTCAAGTAT ACGCAGATTT TCTTCCACCT CTGCCACCCC TGAGACAGTA
 AGATCAATCA ATCTCTTCC TCCTACTCCT CAGTCTACTC AAAGATACTT GAAGTCTACT TGAAGATGAC
 AAGCACAAAG ACACTTATGA TGATCCACTT CCACTTAGTG AATAGTAAAT ATGTTTCTC TTCCTCTAA
 30 TTTTAAACA CTTTCTTCTC TCTAGCTTAA TTTATTGTTA AGAATACAAT CTATAATACA TATGACATAC
 AAAATATGTC TTACTTGACT GTTTATGTTA TCTGTAAGGC TTCAGGTCAA GAGTATGCTA TTAGTGGTTA
 AGTTTTCGAG GAGTCAAAAG GTGTATGTGG ACTTTCAACT GCAGGGGGGT GGGCACCCCT GCCCCATGT
 TGTTCAGGG TCACTTTAC TGCCAAAGGC AAGCCTTTAC ATCCACTTTT TCCATCCCAT CAGTAAATGG
 AAAAGATAG CTACAGTATC CCTGCGTCAA ATCTTTTTTT TTGCAGATCA CAAATTGGCC ACTCACCTTG
 35 CTCTGTGAGG GGTAAATGC CCCACTTTCT TTAGTAATAT TTAAGTTAGA TAATATTTAA GTTATAAAGT
 TGTTCTTTGT AATCTTAAAT TGTAATTTTT ACATAGTTTC TTTCAAACAG AAATAGCATT TTTGTTAGAT
 AACCTCCCGT ATAGATGATG AAACCTCCTT TAAGGCTAT CTGAATTTA ATTCTTGAA AAGGCAGAAA
 TTGGATAGCT AGTAGTCATA AATGTACTGT GGCTTCCCCC AACCATCTGG GCTATATAGA AGCTGCATCC
 TTGGACTGCA GTAGAGGAGT CTTACAAAGC ACAGAGCAAC TTCTCTCCTG GGTGCGCTA GTTATGATGG
 40 CAATTTTAAA TGTGTACTT TACCAACAAT TATCAACAAT CACAATGCCA TCATAACCAT
 GGTATAAAAA ATTCAAAATG TCCAGCTGA AGTGGAGGCA AAGACTCAAG TTCATGGAGT CAGAGTTTCC
 TTGCTATTCC TCTTTTCAA ATGACCATTT AGTAAGCACC TGAAGAAAAT ACTATGGACG GCATTGAAAA
 GTGAAGATAG GTTAAATCTT CTCGAAAATC TAATCTCCA GATGAAACGC TGACACTTAT CCACCCACA
 GACCCTATAG CAGATGTGTC ACTGGCCATC ACATTGACA CAGAGAAAGT ATAACCTAGT CAGCACAGAG
 45 ACATTTCCAT GAGTITCTGA ACCATGGACA GAACGTCGTC TGTGGGACAT GAAAACCTGGA ACTTAGAGGA
 CAGGCACATC TGAGAAATGG GCAGTTTAAA GGCAGAACAT AGCACATATG TGACTGGGTT TTAGAAGCAA
 ATTTACAAGA CGCATCTTC TTCATCTTAA ATAATCTGCA ACCAAAGCTT CCAAAAAGA CAATTTAGGA
 ATGCAGAGGT GAGGAGTAGG GAGGGAATG GAGTGGAGAT TAATGGTGGG TAATGGTGGG CAGAGCGAGG
 TTTAGAACTT AGTGGTTTCT TCAGGTTCTG AACTGAAATT TGTATACTGT AAAAGGCACAA ACACCATTTT
 50 TAACAAAAGT GAGCAGGACT TCCTATCTGG TTCAGAAAAT AGGTGAATAA ATAGTACGAA TTATTAATAA
 TAATAATTTT CACTTATACA TAGGAAACTT GATAGGAACC ATGATAAATG CTTAACTCTT AATCTTCAAG
 GAACTCTGCT AGGCATATAA TATTATAAAT CTTGTTTGC AGATGGAGAA ATTGAATTTT AACCACAGTT
 ATCATAACCC TTAAATGATT AAATGATACT GTTACATGAG AAAGCTGCGT ATCTGTTTCC TGGATTGTGA
 GCCATAATTT GTGTCTCAAG TCCCTTTTGC TGCCAGCTAT CTTGGGTAGG TGTGTTCCCT TTGGGCTGTT
 55 TGATACCCCT ACACTTATCT TTTTTTTTTC TCTTTTTTGT TTGAGAGAGT CTTTCCCTGT TGCCTAGGCT
 GGAGGGCAAT GGCCTGATCT CGGCTCACTG CAACCTCCGC CTCCTGGGTT CAAGTGCTTC TCACGATTCT
 CTTGTCCTCAG CCTCTCTAAT AGCTCGGATT ACTGGCATGC ACCACCACGC CCACCTAATT TTGTATTTTT
 AGTAGACAAG GGGTTTCTCC ATGTTGGTCA GGGTGGTCTC AAACCTCTGA CCTCAGGTGA TCTGCCTGCC
 TTGGCTCTCC AAAGTGCTGG GATTACAGGT GTGAGCCACC ATGCCTGGCC CCAAATTTAT CTTTAATGCC
 60 CCAAATTATC TAGTCTCCAT GACTGGGCTT CTGCTTTGAT CCTTCTGCA CTGTCTGCTG TTCCTGAATG GGCCTCCTGG
 GGAAATGAGA TTGTGTCCTG AGCCCTAGT TAGAGGCTAT GTCTCTGCTG TTTGTCTCAA AATCATTGAA
 ATGAGACCTC ATTAAGAGTC TAATCTCTT GGAGAATTGA GAGATACCTA CCTCAATTCC CCAATCCAGC TGTCAAGGCC
 ACCAATTAAT GTATTATGAG CCTATATCCA CTGGAATTGT CTGGAATTGT AGCTGTGGCA TTTTCAGTAA TGGTACTCTA
 AATTTGTTCT ACCTTACCTA GTAGGTAAGT GGGACCAAGT TTGTGGAAGA CAATTTTTTCC ATGAAGGGCT
 GGTAGCAGT CCCCACCTT TTTGGACCA GATGAACTG TTCCACCTCA GATCATCAGG CATTAGATTG TCACAAGGAG
 GGGCAGGGGA GTGCTTTTCTG GATGAACTG TTCCACCTCA GATCATCAGG CATTAGATTG TCACAAGGAG
 TGCGCAAGCT AGATCCCTCA CACATGCAGT TCACAATAGG GTGTGCACTC CCATGAGAAT CTAACACCGC

00403679 040400

5	TGCTGATCTG	ACACGAGACA	GAGCTCAGGC	AGTAATACTC	ATTTGCCTAC	CGCTCACCTC	CTGCCGTGCA
	GCTCAGTTCC	TAACAGGCCA	CGGACCAGTA	CTGGTCCACG	GCGCAGGCAT	CAGGGACCCC	TGTTGCTAGG
	TATAAGCATC	TGGCTGCTGC	ATGTCTTCTG	TGTAGCTACA	TCTGTATGTG	TATCTGATGA	GATATAAAAT
	ATTTGATTAT	AAATTACTTT	CTTCATATTA	GAGTTGTGAA	TGAGTATCAC	ATATAATTAT	ACATAAACTA
	GGAATATGCT	TTTTAATAAT	GTATATAAGT	AAGTTTCCTT	AACTATGACT	TTCATCTTAG	CGTAGTAAGA
10	GGGTGCTAAG	AAATATTTGT	GATGAAAATA	GGCATTGGTA	GAGTTGAGAC	CACTGGGTGA	TGAAAAGAGTG
	TAAAGATTTT	AAAGCCTTCA	GATGCTGGTT	CAAGGTGAGA	AATGTGATTG	GGAGCAAATC	AAATAACTTC
	TTGAAGTCTT	ATAGGGCAGT	TATGAATACT	TAAAGTTAAC	ATATGTAAAG	CTCTTCTGCC	CTGTATACAG
	TAAATGCTAG	TTAGCTATTA	TGATCACTAC	TAAAATGGGG	ATGACATAAA	CCTCATAAGG	TTTTAAGTAT
	TATGCAAGAT	ACTATACAAA	GTCCAGTAAA	TATCACATTC	AATTGAATCC	ATGATGTCCG	ATTATTTTAG
15	CTACTTCCAA	GAGAGAAAAA	AATGCTGTCA	GTTTTACTGT	TCTTATAGAG	AGCAAGGCAG	ATCCCAATT
	CCAATGTGGT	AACGTGAAAA	TTTTTGCAAT	TGAATCAACA	AAACACTTTC	TCCTTCTTTT	CCTACTATTT
	AACAACGGT	AAGCTATAC	TCCCCCAAAT	CTGGAATTCT	CCTTCTTAT	TCTTTTTCTT	CCTACCAAGA
	CCGACGATC	TTTTACTTGG	CTATAAGGGG	TAAACCTCAA	GTAGTACAAG	TTCTCTGTAT	TACTTTTATA
	CTCTGTACAC	GATTCCTTT	GTTTCCCTAT	CTCCATGTGA	ATTTAGTTAA	ATTCTCAGCA	TTCTGATCCT
20	TACTATACAA	GGTAAATGAA	TATAAAAACA	AAACGAAACA	AAAACCTCTT	CCTATTTACA	TAAAGCCCCA
	ACCTAATATT	TAGTATATATA	TATTAATGTG	AAACAAGAAC	TAACGAAGAC	TGGGAAGAAA	TTACAGAGCT
	TGAGAGAAGA	AATGTCAGGA	TTTCTGGGA	ACAATTTTAT	GTAACGTCAA	AGGTGGTAAA	AGGTCAAATA
	GAATGAAGAT	GGAGAATACC	GGATTTTCTT	ACAAAATGAT	TTCCAGGAG	ATCTCATCAA	ATGCACGAGG
	ATACCTTCTC	AGTTCACCT	AGTGAGTAAA	AGACTGGTAA	CATAGCTCAC	TTACAATTG	GATAAACAAA
25	ACTAAACAAA	CAACATCAAA	ATTCAGAAA	AAATAATAGC	AAAACAGAAA	TCAAACACTC	AAATTTTTGG
	TCCTTCTGTT	TATTCATTT	TGGATACTCA	GTGAATGTTA	ATTAACCAGG	AAAACTTAAA	GTTATTTCAA
	TTATGAACCT	CTTCAATCCT	TCATCAATTA	TTTTGAGTAT	TTGTGCTTTA	AAACATCTCT	TTTCTTCTAC
	AAACTTCTGA	AAGAGATGAA	CACCTCCACC	TACACCAAAA	TACTGTGCTT	TGCTGGCCAA	AAGTACACGT
	CCATTTTTAC	TTAAAGTCT	AAGGAAAGTC	TGGTGCAAAT	TACTATAATA	ATCTGGGTTG	TAAATGGTTT
30	CTGAGGTGAG	AATCAGATCA	TATTTTACAA	AAAGTTTTTC	ACTACTTAGT	ACAAGCTTAC	AAAACCTCAG
	CCACTACCA	GAAAAGAAATC	GGCATTATATA	TAGTTGTGTT	ACTTTTGGTT	TCCTGCATCT	TTTACATCT
	GGCTCATTTA	CATCATTTTC	TTCATCTTCC	AAAGTGGAGT	TAGCTACTAC	ATTAGGTAA	GTTACTTCAT
	CAATCACCAT	ACTGTTATAA	TCTTGAAAGT	GAATTTCTTT	GGACCTCCCT	TTGAATGCAG	TTATACCTAG
	TAAACCTGAT	CCACAACCAA	GATCCAAAGC	TTTTTTCCCA	GCAAATTTCA	CTTTGGCCTT	TGTGAAATAA
35	GCCAGGAGGT	CAAAAGGTACA	TCCCCAGATT	TTAAGCCTC	CCTCATAAAC	ACCTGTAATC	AGATCAGACT
	GAGAAGAAAA	GCTTTTGAA	ACTATGTTTT	CTCCAGGGAA	GTTCTCTTTC	AACAAGATGG	TTTTCACTAC
	TGATAACTTA	ACAIGCTGGA	AACCTGGTAA	TGTTTCTATG	ACTTTATTTT	CTAACATCTT	CTTTAAATCT
	TTAGGCATAG	CATGCTCTTT	GGCAGCTCTC	AAGGAGGGCT	GTTTTCCATG	TGGCTCCAAG	TTCTTGAAC
	TGCTGGCTGC	ACTGAGTGGA	CTGCTGTGT	CTTGAGAGGG	AGCTGCATT	TCCATTGACT	TATGTTCCCA
40	CAAGTGATCG	TGAGGCAAGT	CAAATTGTTT	TGCAGAACAT	TTTCTGTCCC	TCTCTTCTCC	TTTTTGACTT
	TCTGAGACTG	ACACCTCTTT	TGAGGAATCC	AGGGTCAAAG	CTCCATCTCT	AATGGGTGTT	AAATCATTTT
	CCAGATGGTC	TTCTATAGTG	AAATTAACAT	GAAAGTGCAT	CCTCTTATTA	AATGCACACA	ATCTTTAAAT
	TCAGATTCTT	CAACTCTGG	ATAGAATTTG	ATGATACACA	CAAACTGTCC	TCAATTATTC	AAATGATTTT
	GTTGGGCCCA	ATTTCTCTTT	AGCAGCTTAT	ACATGGTAAC	AAATATTTAG	AGATATTTCC	AAATGACTTT
45	TTAGACGTCT	TTGGTCTCT	TTCCAAGCAG	CTCTGGAAAG	AAAAAAAAAA	AAAAAAGAAA	GAAAATGATG
	ATTAAAGCAA	AATCGCACAT	TCTACTAAAG	TGTAATATTA	AACAGCCACC	CCCCCCCCTC	CCTGTCCCAC
	CATACAGCTG	CTTTTCTTTA	AAAAGTTGTG	GGGAAGAGAG	AGAGATAAGA	GATTTGGACA	CTCATACACA
	CCTTAAGGGT	TCCAAGGTGG	GAGAAGAAAA	TCAACTATAA	AAACAAACAG	AAGAACAACA	GCAACCACCA
	CCACTACCAC	CTGGACAAC	ATAAAGTCCA	AGATATTTCAG	ACAGGACAGC	CTAGCTACTT	GCTGTCTTTT
50	AGCTGTCTTG	ATTTGTCTCC	AACCATATTC	ACCCCTTAAG	CTTCAGAAAT	AACTTCACTT	CTGTCTTTTA
	CAGAAGAGGT	GCAGTATTTT	ATTTTGGTAA	GTCAGCGTCC	CTTTAAAAAC	ATGCATAGGT	ATGGCCTGGT
	GTGTGTAAAT	TCATCCAAGA	CTTCACTCCA	AACATTTAGT	CGAGAACAGC	AGCCCTAAGT	GTATAGAAGT
	GGGGGTAATT	TGGCAATAAT	TAGTAAAGAC	TAATTCGGTG	GCAGAGCAAA	CGCAAACCTAG	GGCACTGCAG
	TAGTTTGGAG	AGACCTGTAG	AAATAAGAAG	CAACTTTATT	GAGAATCTTC	TATCTACTGC	GCTAGACACT
55	ATACCATCTG	CCTCAATTTT	CACAGTTCTG	GCAAGTGGGA	TCTTTGTTCC	CTTTATACAA	GATTTACAAT
	TTGGGGGAGA	GGCCGGTCAC	CCAGTCCCGC	GGCTAGGAAC	GCGCCTCTTT	CCTCTCCCAT	CACGCTGCAA
	GGCTTGGAGT	CACCTCCCGC	TGCAGGTTCC	GGAACAAATC	CGACCCGAGA	AGTGGGGACT	CTGTGCCCTC
	ACCTCCCCAT	TTGAATGTAA	TGTTTACAGT	GATCCAGACC	TGGGGATGCT	TGCTTCCCGA	CGTGTCCTGG
	GATCGCGCTT	CTGAAGAAAGC	TCACCTCACA	ACGCCTCCTC	CGGACCTAAA	TCGCGCACCA	GTGAGTCGAG

TAAGGCTTTG GCCCTGGAAA GCCTCGCGGA CGTGTCTGA CCCAAGGTTT TAGCAGTGGA TGTGGCGTTT
 TCTTCCATTC CTTCCTTCAG TTTTCTGTA CTCGTTGCTT GCAATTAAGT GTAAATACTT TTGCTAGTGG
 ATAATGGGGG AGGCAAGGAC TGAGACCTGC GGTATGACGA TAGCTCTGGC TCTTAATAGT TTGAGGTAAA
 GCGAGATACT CTGAGCTTTT GTCTCCCGTA AAAAGGGTGG TGAATATGAA TAAGGGCTTT CTTAGCGTTA
 5 TAAGAATTAA AGGCATAGT TCTGTGGTGT GAAATCTTTA AAAGATGTTT AGTAAATAAA AATGATTTTC
 CTCCTTCCCC TCTCAGACCT CTTTTCTTC TTTCTTCTT TTTTTTGAC AAGTTCTCAC TCCTCTCACC
 CAGGCTGGAG TCTTCTGAA AGAGTCTTC CGCTTGTGT TGGCTTCAA CTGTTGGATT TGAGGCGCTT
 AGCGCCTTCT TCGTCCGGGT GCAGCACATT CTTGATTGGT CTCATGCCTT TGTGGTTGTA AATGTGCCTG
 GAATCCTAGC CTTTCATGGT AAACCATATG TATATGTATC TTTTTCACAA CATTTGAGCC CAGCTTTATA
 10 CAATTACACT CAAAAGAAAA AAAGTAACCT TCACTTGAGA GAATCTCAAT ACTGCACAAA TATTGTGCAG
 CTAAGGCCCT ATGTAATCAC ATAGAAGTCA TTCACCTAGG CATTAGCAAA ATCTCAGAAA GTGCCAAAGC
 CCCCTTTTTT AGTTTGTGT TAGGTACAGA ACTGCCGTCT TCAAGGAGTT TCAACTTGAA AACAAATAGC
 CACCCTCAAA ACATTCAAAA ACACCTAAAC TGCCTGCATA ATGTGTGTGA GACATGGTGT TAGGCTTTGG
 GAGAACAGAG ACACGGAACG TGATTCTCTT TCTTCCCAC AAGCTTATAG AGAGACTTCA TTAAGTTGAA
 15 AGTCAACATT CCCACCTAGC TTTGCACTTC AAACGACATA TTCAAAAAAG CCCAAACTTC CTCTAGTTTT
 CTTCACTCTGA GTAAATGGTT TCACAAACTG AAACCTTGAA TCCTCTCTGT CTCACACACC CGATCAGTAA
 GTTCTATTGT TTCTGATTCC AAACATATGC TTGAATCAAT CCGTTTATCT CCATCCTCAT TGCTACCACT
 CTGATTCCAA ACCCTTATCA CCTCTCACTT GGAGTATTA TAGTTTCTCT GTTCTACTC ATAATTCATT
 ATTCCAAAAA AGTTAAGAGG GGAATAACAT AGATCTCGTC ATTTCCCTTT TTAAACCACT TTACCTTCAA
 20 GGTTCAGGT GATCTAAGCC TTGCCCTTCT CTCATACCTA GTTAATTAAC TACACTCTGT TCATGAATAC
 ATTAGGCTCA CCTACCTCAA GATCTTTTTG CTCAGCCTGA TTTGTTCTCT CAGCCTTTTG CATATTCAT
 GTTTATGTCT TGGCCTAAAT GTCACCTCCT TAGAGGGGCT TTTTCAGAGC CTTCAATCTT AGGCAGTTCC
 CCCAAACGCA GTCTTACACT TGTATCACAT TGGCCTGTT AGTTTTCTAA AAAGCACATT ACCATTAATA
 25 GAAATGCTCT GTTTGCTTT GTATATTTT CACTTCTACA CATTATGTTG CAAAGTTCAT AAAGGCAGGA
 TGTGTATTTT CTTCACAGCG TTACCCTCAG CACCTAGAAC AGTGCCTGAC ACATAGTAAG CATTCTATA
 AGGGCTAAAA ATATTTCATG TTTTAAAAAT ACTTGGGAGT CTAATTAGAC AATACTTTTT TTCAGCTTAA
 TGGTAGTATT TTAGCTTAC TATTTTAAAC AATGAAAAAT TTGCAATAAA TCTACAATGC CATTACCCCC
 CAAAATCTTT TTCAITTTTT GCATTTTACG TATTATTTT CAGGCCTTAC CTGCATGTCT GCATAATCAT
 30 AACTGACTAA TTTTGAACA GCTGGTAATT ATTTGAGCTT TACTGAAATT TTTTCATGAG GCCAATTCTA
 CCCTACTGAA CTCAAATTTG AGTTAATGAT GACCTCATT TGAATTGCTG TGTAATAAAT AAGATTTTCG
 AAGAGGAATG AATCTTGTA TTACTGTGGT AGGACTATGG GTTTTTTTTT GTTTGTTTGT TTGTTTGGAG
 ACGGAGTCTC ACCCTGTCTC CCAGGCTGGA GTGCACTGGT GCGATCTCAG CTCACAGCAG CCAGGTTCAA
 GTGATTCTCC TTCTCAGCC TCCCGAGTAG CTGAGATTAC AGGCACGTGC CACCATGCCC GGCTAATTTT
 TGTACTCTTT AGTAAGATG GTTTCACCAT GTTGGCCAGG CTGGTCTCGA ACTCCTGACC TCGTAGCCG
 35 CCGTCTCAG CCTCCTAAG TGCTGGGACT ACAGGCGTGA GCCACCGTGC CCGGCCGGGT TATTCTATTT
 TCTTATTAAC ATTCCTTGAT GATTCTTATG GTGTTGTTAC AGTAAAAACAT TTCTAACAAT TATTCTAACA
 ATTATTCTTG ATGGTGTATA TGAAGAATTT ATTTGCTGT ATTTGTAAGC TGCTATGTGC AGAAGAATTT
 CAGTCAAATA AAGTTGGTAA GATAGGTATG TAAGTAATAT GAAAAAAGAT AGAAGGTGAT GAGTGACTTA
 40 GGTATAAATT AAGTACAATA GAAATGTTGA GGAAGAAAAA ATTTCTTGTA ATAGAAATCG GAAGTACAAA
 CTGGGCATGG TGGTGTGCAT CTCTAATCCC AGCTCCTTGA GAGGCTGGTA TGGGAGGATC ACTTLAGCCC
 AGGAGCTTGA GGCTGCAGTG AGGTGTGATC ATGTACCCGC ACTCCATCCT GGGTGACAGC AAGACCGTCT
 CTCTTTTTTT TTTTCTTGA GACGGAGTCT CGCCTATGCT GGAGTGCAAT GGCCTGCTCT TGGCTACTG
 CAACCTCTGC CTCCAGTTT CAAGTGATTC TCCTGCTCA GCCTCTGAG CAGCTGGGTG CAGCTGGTG
 45 CGCCACCATG CCCAGCTAAT TATTTTGTAT TTTAAGTAGA GACGGGTCT CACCATACTG GCCAGGCTGG
 TCTTCAACTC CTGACTCTT GTTCGCCCCAT CTAGGTCTCC CAAAGTGCTG GGATTACAGG TGTGAGCCAC
 CCCACTTGGC CCGAGCGAG ACCCTCTCTC TAAAAAATA TAAATAAATA AATCATAAAC CTGTGGATTA
 TTGTAGCATT GTTCTCATC TGTCAAAAAT ATTTTCATG TATGCATAGT TTGAAAAGGC AAGTTTGTCC
 CTGGGCAATT TTCAAAATAT TTCTTAAATG TGTTTTCAACA ATACTGTTTA CCTAATAAAT CTTAAGTTTT
 50 TAAAAGCAAA ATTAGCCAG TAATTGAGT GAGTAATGAA TACCCTATTA CTATGATACT AGTATCTTCC
 AGGGTTTTAT TTTTCTTTA GGTGTTGTTCT GAGTAATGAA TACCTATTA CTATGATACT AGTATCTTCC
 TTAATTATCC TACTCATTTG CTCAACATTC TGACAGTTGG ATTGAGCATA TTCGTAAGTA AAATTGTTTT
 AACTGTATGA TGTACTTTGA TGTTAAGGTC CGAGTCCCCA CATACTCTCG TAGATGTGTT CTTACAGTTT
 TGTATTCCCT TGAAATGTAA CTGTTCTCTA TGTTACAGCC TTTATAACCT TCAGTTACTT GAAATGAACA
 55 AATTCAATCA AATTCCAGCA CTTAAAAGTT TTAATTACA TTTTGGATAA ATACCAAGT GTTTTGTGTA
 TGATGTATGT ATAAACAAAT TGTAATATTT AAACGTTAGT TGTTACGATT AGACCTATAT AAAACATGAT
 ATGCAGTCTA CTGAATAGCT ATCAGCCTCT AACATGTTTA GTGTCATTTA GAAAATGCTT TCTAAATTGC
 CAAAAGCTGA TTGCTAGGT GATAACAAAT TTACCATTTG GAGGAAGTTG ACTTTCTCAT TTTACTGTCT
 TCATCAGTCT TACTTGATGA GATTCATTCT TCTAGTCAGA GACTGTCTAG TTTACTGATA TTTACTGATA
 60 TTTTGAGTTA GCTTTCTAT TTAGAGTTCA CTGTTGTGTG GAATATTCAT TTATAATTTG AATCTACGTT
 GTGTAATGGG ACCTAATTTT TTTTCTCTT GTTTTGTGTG GAGTCTCGTT TTGTACCCCA GGTGAGGTG
 CAGTGGCGTG ATCTTGTCTC ACTGCAACCT CCACCTTCCA GGTTCAGGTG ATTTCTCTGC CTCAGTCTCC
 CAAGTAGCTG GGAATACAG CATGCTTAC CACGCTGCG TAATTTTGTG ATTTTGTAGT GAGATGGGGT

004040 " 5296439 040400

	TTACCATGT	TGGCCAGGCT	GGTCTCAAAA	CTCCTGAGCT	CAAGTGATCC	TCTGCGCTTG	GCCTCCATAA
	GTGCTGGGAT	TACAGGCGTG	AGCCGCTGAG	CCTGGCCCCA	GAGTTTGTIT	TGTTTTGTIT	TCAAGACAAG
	ATCTCACTCT	ATTGCCAGG	CTGGAGAGCA	GTAGTGCGAT	CATAGCTCAC	TGCAGCCTGA	ACTCCTGGGT
	TCAAGCTATT	CTCCGCGCTC	CATCTTCTAA	AGTGCTGTGA	TTACAGGTCT	GAGCCATGAT	GCTTGGCCTG
5	TGTTTTTGT	TGTTTGTIT	GGGGGACAGG	GTCTTGCTTT	GTCACCAAAA	CTGGAGTGTA	GTGGTGCAGAA
	CATAGCTAGC	TCACTGCAGC	CTCCATCTCC	CACGCTCAAG	CAATCCTCTC	ACCTCAGCCT	TCCAAGTAGC
	TGAGACCGCA	GGTGCGTGCT	ACCATGCGTG	GCTAATTTTC	TATTTATATA	TTATTTTIT	GGTAGACATG
	AGGTCTTGTC	ATGTTTCCCA	GGTGGTCTTT	AACTCCTGGG	CTACAGACAGT	TCTCCCGCT	CAGCCACCCA
	AAGTGTTGGG	ATTACAGGCG	TGAGCCACCA	TGCGTGGCAT	AATTTTTTTT	AAGTAAATTA	TTTTTTTATC
10	TTGAGTATAG	AAGTGATTCA	TGTTTCATTGT	GGAAAATATG	AAACATATAG	AAAAACAGAA	AAGATTACAA
	AACATCTAAT	CTGAAATGGT	TAAGATTTTG	ATGAGAACAG	TCTCATCTCA	TTCCGTATA	TTCTGCCAG
	CCTATCCATC	ATTCTTCGTA	CATGTTTATC	TACATTAAAA	TTGGTGTTAT	ATTTTGAAAA	CTTTTGTIT
	AACTACATTG	TGAACATTTT	TCATGTTTTA	AAATGTCATT	TTAATGATGG	CAGATCCTAT	TCAATAGATG
	TACACACACC	TATTTAACTG	GTCCACAATT	GTGGATATG	TAGGTGCTTT	CCTTCTCTC	TTTTTTTTT
15	TTTTTGGCTA	CTACTTAATA	GTTTCTCTG	ATAGAAATGT	GTATTTTGAA	AGTGATACAA	GCITTAGATT
	GGTAGTATTC	TGTCATTTAA	TAAAGGCGAG	TGGCCTTGT	TGACTGACAT	GACAATATTT	TTATAAAATT
	TGTTATTTGC	TTTACAGAAA	TTTTGAAAAT	TATTGTAGAA	ATGTTTTTAC	CTCATATGAA	CCACCTGACA
	TTGGAACAGA	CTTCTTTTTC	ACAAGTGTTA	CCAAAGGTAT	AATACTATTA	CCTGAAAATA	CATGTTATAA
20	GGAATCTAGC	CTCAGTCTTA	GATGATTTAT	TATTAATTAT	GGCTCTCTTT	TTCTAATATA	TCAAATATAT
	TCAAAAATAAA	AATAAGGAGT	AAGTAGATCT	CATGTGAGAC	TATAATGGTG	TTAGTGTGAT	CATTAGGCAG
	TTAAAAACTG	TTACAGGCTG	GGCACGGTGG	CTCATGCCTG	TAATCCCAGC	TCTCTGAGAG	GCTGAGGTGG
	GCAGATCATC	TGAGGTCAGG	AGTTCGAGAC	CACCCATGGT	CAACATGATG	AAACCTCGTC	TCTACTAAAA
	GTACAAAAAAA	TTACCTGGAC	ATGGTGGCAG	GTGCTGTAA	TCCCAGCTAC	TTGGGAGACT	GAGACAGGAG
	AATTGCTTGA	GCCTGAGGAG	CGGAGGTTGC	ATTGAGTCAA	GATCGTGCCA	TGCACTCCA	GCGTGGGCAA
25	TAAGAGCGAT	GCTCCGTCTC	AAAAAAAAAA	AAAAAAAAAA	AAGAACTTAT	ATTTTCAGAT	TGTGTGGTTC
	CTTTACTAAC	TGAATTTAAA	TTATTTGTAG	TCAATTTTAA	ATGCTCTTGT	ATTTTAAAGC	CAGTGTACTC
	CAGCCTGGGT	GACAGAGTGA	AACCTTAAT	TCAAAAAAAAA	AAAAAAAAAAA	AAGAAAAGCT	GGAATATTGG
	CAAAATCAAG	TAACTAAGAG	AAAACATTAA	ATTACACAGAA	TACATTATTA	CATTTTAGAT	ATATATGGTA
30	TATGTTTTCT	CTGAATAAGCA	CAAGCATACC	TTTTTTGTIT	TAAATGGAGG	GAACATAAGA	TACTTTGGTG
	CCAAAATGAA	ACAATATTTG	TAATTAATCT	CTTATTGAAA	TGGGTTTCTA	ACTTTAGCTT	TGAATCGTAA
	TCTTTCAAAT	TTCTTGTAAT	CATAGTCACT	TGATGATTCT	CTATCTGAAA	TATTTCTTAG	AAATTTGTCT
	TGACCACCAG	AAAAGATTTC	AACGTTTACA	TAGATGAAAA	TGGATGTTGA	GTGTTAACAG	GCCTATGGGA
	AACAGTATTT	TCTTAGCTA	CATTGTATTG	TTGACTGTGT	TGCTATTCTT	ATAATGTTTA	GGTCATTTAA
35	ATTGTTAGAA	AGATCCAAGT	ATTAAGATCT	AGGGTGGCTA	ACTTTTCACA	GACAAAAAGC	TTGTTTGTA
	GGTCATTTAC	TATACCTTAA	ATTACAGGAAG	GTTAGCTTGA	ATTGGGTCAA	AAGGAAACTG	GTTAGAAAAT
	AAGTGAGTAG	TGAATAGGCG	ATTCAGTGCA	AATTCCTTCC	AGAAAATACC	CTTGAAATG	ACTGTATGAA
	TGTGGATTCT	TCAAGACAGT	CAAAATTTAT	GTGCGAAAGT	AATACTTTTA	TTTTTTGCAT	CTCAAAAACA
	TGAAATTTGA	GTGATTTTTT	AAAAAAATTT	ATGCTATTTA	ATAGATTCAA	ACCATAGAAA	TGGAATAATA
40	ATTTCTGTTT	GGGGCTTTTG	GGGGGATTAT	GTTGTAAAAA	TACCTTTTCT	CTGATTTTTG	TGCTTAATTA
	GGTACAATTG	TTAAGCTAGA	TGATAGCCTG	TGGATGTTAC	TAGTGCAAAA	TCAAATTATC	GTATTGTGTT
	TTCTCTGTAA	AGTTTGTCT	TGTCTTTTCT	AGTGATTTCT	CTTATTCCTG	TTTATTACTT	GATTTGTTTT
	TACAGACTGT	GAAATTTATTC	GATGACATGA	TGTATGAATT	AACCAGTCAA	GCCAGAGGAC	TGTCAAGCCA
	AAATTTGGAA	ATCCAGACCA	CTCTAAGGAA	TATTTTACAA	GTAAGTCAAA	TGTATTAGAA	AGCAGGAGAG
45	AGAGGGAGCT	TAAAGAAATGT	CAAAATTTTT	ATACTGATAC	TGATTAGCTA	TGTATCTTAA	TGTAATGGCC
	TAATGTGGGA	ATTAATTTTA	TAGAATTTAA	GACGTGAATA	TAGAAAACATG	AATTCGTAAT	AATAAACTCT
	TATAAGAAGA	GAAAGTCATCA	AGCTAGCTGA	CCCTACCTGT	ATTTTCAAGG	ATATGTGTGG	AACACCTGCC
	ATGTGTTTTG	AAGTTTGTGT	TAGTATTCTA	AATGGCTAGA	CAGTTGTTCC	AGTATTTGTA	TTCTGATAG
	ACTAAAGTTC	TGTGAAAAGA	GGAAGAGACT	GTGTTTTGTT	CATTGCTGTA	TTTGTAGCAC	CCAGCATGCT
50	GACTAATACC	TTTTAGTGTC	ACAAAAAATA	TATTTCTAAGT	GAAATTTTCT	TCCTTATTCA	CAGACAATGG
	TGCAGCTCTT	AGGAGCTCTC	ACAGGATGTG	TTACAGCATAT	CTGTGCCACA	CAGGAATCCA	TCATTTTGGA
	AAATATTTCAG	AGTCTCCCT	CCTCAGTCTT	TCATATAATT	AAAAGCACAT	TTGTGCATTG	TAAGGTGAGT
	AAAGGTCTAA	TTATACTTTG	AATGGTATAT	AATCAATGTG	CATAGGGGCT	GAGTAAATAT	ATGTTTGTAT
	AAGATTTTAC	ATTTTAGTCT	ATATTATTGA	AATAAACTTT	TCCATAGAAT	AAGAACAATG	TAAAGATAAT
55	ATT						

5	TGTGTAATCT	GGGTGTTAC	ACCTAGTTTC	AGACCTTCTC	CAGGCTCTTT	TCAAGGAGGC	CTAATCTCTT
	CAAAAGCAGT	TAA1GGAAC	GCTGGACATG	GTTTGCATGG	ACCCTTTAGT	AGATGACAAT	GATGATATTT
	TGAATATGGT	AATAGGTGAG	TGAAGAAAAC	TTTCTGCTTA	GTATATGGTG	ACTATAAATC	ATGTATCAAT
	TAAAATTGTC	TCTAATGATT	CATGTTATTT	TCTTACTAAT	TATGCATTAA	AATTGATTTA	AATCTTACCA
	AATAAAATTT	TAATCTTGAA	ATTTGGAATT	TGTAAAAATTT	ATTTTGGGTA	CCTTAACCTA	GATTTGCGTA
10	TTTAGTTACT	GTAATTTCTC	CACAATGATT	AACTTATATA	ACTTTATAAT	CTCTGAGGTT	GTCCATATGG
	AGAGACAATA	ACTTTCACAT	TTTTTTAAAC	ATAACTGATA	TTGAGATGCA	GTTTATATTT	CTCTCCAGAA
	TACATATAAA	TACGTCGATA	TGTGTATGTA	AATATGTCTA	TTCTCATATA	CATATTATAA	TGAAATAAAT
	CATTTTACAT	GTGATGCACT	TTATACTAGT	TTATTTTTAT	TTTATTTTAT	TTTTTTGAGA	CAGAGTCTCA
	CTGTGTAGCC	CAGGCTGGAG	TGCAGTGGCA	CAATCTCGGC	TCACTGCAAC	CTCGCCTCCC	GGACTCAAGC
15	GATTCTCCTG	CCTCAGCCTC	ATGAGTAGCT	GGGATTATAG	GCGTCCGCCA	CCACACCTGG	CTAATTTTTG
	TATTTTTAGT	AGAGACAGGG	TTTCACCGTG	TTGCCAGGGC	TGGTCTTGAA	CTCCTGACCT	CAGGTAATCC
	ACCTGCCTCA	GCCTCCAAA	GTGCTGGGAT	TACAGGCATG	AGCCACCGTG	CCCAGCCAAT	ACTAGTTTAT
	TTTTAAAGAA	TTGCTGGTCG	TAACACACTT	CATTGATTTT	ATCACTCATT	AATGGATTAT	GAACAAGAGT
	TTGAAAAACA	ATATAAGGC	AAAGTTTGCA	TTCAAAACTT	TGGTATAAAG	AGAGTAAGTT	GGTTTTGTGC
20	AGTGTATCAG	GCACCTGTTG	CTCTGCAACA	CACCACCTCA	AAATCTATTT	ATTCACTATT	TATTTATTCA
	TGATTCTGTG	AGTCIGCAGT	TTAGGGTGGG	ATGTCCTGAG	ACAACTTTCT	CTGATCCACC	TGGGGCACTA
	GCTCACCCAT	GTGACTTCAG	TGACTTCATT	CACATCTGGC	TGTTGGCAGA	GGCAGAAGTA	CTTGAGAAAG
	CCATGTGCAT	CATCCAGCAG	GTTCAACCCTA	TCTCAGATAC	CTGATGCCAG	TGGTTTCAGG	GTTTCTAAGA
	GTAGCAAAAG	TGTGAGCAGG	TCGCTGTGTG	CTAGCACTT	TCAAGTTTCT	GCCTGCCTTA	ATTTTATTAT
25	TGTCCCCCGG	GCCACAGCAG	GTCATAGCGT	TTAGCCCAGA	GTCATTGTAG	AAAAGTGTGG	ATTACAAAAG
	GGCAGTCATT	TGCGCCATTT	TTATAAATAA	TCTACCACAG	ACTGAGTAA	AGCCTTGCAT	GAATACCATT
	GATATCAATT	TGA1TCTTTC	CTTTTAGAT	TTTCTTCCCT	TAGCAAATTTG	TTTTGTCTAT	TTGGATTAGA
	ATTATATCTG	TAGAATATTT	CAGTTATAAT	AGGGTACAAC	TTTTATTCCA	CTGAACACTCT	TTAGTTTTAT
	TTAGGTCATC	TGGT1GGTAT	AAACTTCAGA	AGTTAATATT	CAATATTTAT	AAAAACCATT	AACAAGTGTG
30	ACACTTAAAT	AGTTTAAATA	ATTCTTTTGA	CACAACGTGT	TCCAAGTTGT	GTTACGTATT	TTAATTCAAT
	CAAAATGTTGA	AATGTTCAG	TAGATAGTTT	TAATTATAGG	AGAAACTCAC	CCCCATGACA	TTTGGATGTC
	TTAAAAGTTC	TGTTATCTTT	CTTTGCAGTT	ATTCATTCTT	TATTGGATAT	CTGCTCTGTT	ATTTCCAGTA
	TGGACCATGC	ATTICATGCC	AATACTTGGA	AGTTTATAAT	TAAGTAAGTT	TGTTTGTTAT	TTTTTACTTT
	TTAGAAAATG	TTTTCCATAT	TCCCAAATCT	TAATTATTCA	TGATTTCTTTA	GATTGCATTT	AAAACATTTT
35	GTGTGAATTT	AATGTTTCACT	GACACTGCTG	TCTGATAATC	CAGATATTCT	ACATGTAGCT	CTCAAGCCAA
	ATTGGACTTC	TTTACCTGT	GGCCTCTAAA	ATTAAAAAAA	ATGTTCTTCC	TAGTTAGCTA	GTACTTCAGA
	AATAATGGGC	CATCGGCCAG	ACTAGAACTT	AACCACTTTT	CTTCTGCTAC	TGTTGTTTAA	CCAGCTATCA
	AGTATCCTAT	TTCT1GGATT	AGATAAATTG	ATAACTATAA	TTAAAACCTGA	ATATAATCTT	TTCAATTAGGT
	ACTTTTAAGT	TGTTACACT	TAATTCATT	TGTACAGTAA	TTTTAACTTT	CTGAAACTGA	AGCATTTTAA
40	AGGGTCACCA	GGG1TAGTGC	CTGTAGCATT	CATCAGATTC	TTAGGGGTGA	GAGGAGATGT	GGTTGAGATG
	TAAAAATGGT	TAACAAATATC	TACTTTATAC	ACATACATAA	AACATTTAAAG	GTCAGTGTAT	TTTCAGGTCT
	TAGGTACTTT	TCTT1TACTA	CCAGGACATT	AAGT1GCCAT	TCAGTTGGTTA	AGAGTGTTCG	CTGGGAGCTG
	TATCACATGT	GCTTAAATCC	ATTCTTGAAA	TCATTTACTC	CTTCTGAGCC	CTTGGGCTAT	TTGGTTAATT
	TCTCTGAACG	TTAGTTTGCT	CATCTGAAAA	TGGAATAAAT	AATAGCAACT	TCTTGACAGG	GTTATAGTGA
45	GAATTGAGTT	CATCACTGTG	AAATGCTTAG	AAATGTGCAT	GACACATAGT	TAATACTCAA	GGAATTAGCC
	ACATCACTAT	CATCATCACT	GATTATCTTC	CACTCTTACC	CTCTTCCAGT	TCATTTTCTG	CCCAGCAGAA
	TGATCTTTTA	AAAAGTAAAT	CAGATCATGT	TACTCTATTG	CTTGAAGTCT	ATCCCATTTG	ATTAAGAATA
	ACAACCTAAT	CCTCTGTGGA	TGCTGCCTCC	TTCAACAGCC	TGTCTCATGC	TGCTCTCCCT	ACTCTTAGTT
	CCTCAACAT	ACCA1AACTCT	CCGTGCCCCG	AGTCTTTTCTG	TGGTTTTTCC	ATCTGCCTAG	GATGCTTCTC
50	TCTCCTATTT	TGTGTACCTT	GCTAACCCTT	GCTTACTGTC	TTTCACTTCT	CAGCTTAAAG	GTTATATCTT
	CATGATAACA	TTCTTTGATA	TCCTTACCCT	AAGATTAAGT	TAGATTGATA	TCCTTACCCT	AAGAATAAGT
	TAGATTAGGT	CTCTCTATTG	TAGCACCTTA	GACTCTGTCA	TTTGACAAAT	CACAGCCCTA	ATTAATTATT
	CTTAAAATTA	TTTAAATTC	TCTCTCATGC	TAGACCACAA	GTTTCATGCA	GGTAAGGCGG	AGATTGTGTC
	CATTTGTTTG	ACCC1TTTGT	CTCCAGGGCC	TGGTAGAATG	CCTCATACAT	AGTAAGAATT	CAATTAATAT
55	TTTACACAGA	GAAA1AAATTA	GCAACTTATT	TAAACAAATA	TAAGTCTTTC	AGAGGTAAAC	TGGGCACATC
	TTAGTTATAT	TATGTGATAT	ATGATGCTTT	TTGATTGTTT	TTTTAAATGT	TCTACAAGGT	AGATATTGTT
	AGAGTCCCTA	AGTT1ACTTGA	TGTGTTACTT	GTGGTGATTG	TATTTCTTTC	TTTTTATTCA	TTTAGGCAGA
	GCCTTAAGCA	CCAGTCCATA	ATAAAAGGCC	AGTTGAAACA	CAAGATATA	ATTACTAGCT	TGTTGGAAGA
	CATTCTTTTC	TCCTTCCATT	CTTGTTTACA	GTTAGCTGAG</			

TTTATGAAAC ATTATATTCT AAAAAATTTGT AGTACGATTA TTGGGAATTA TAACTCATT TCTGTAAACA
 CTGTTATACA TAGTACCTTT TGCTTTCAGA CTAGCCCTCA ATTTTATTTA ACTATAGTAG TCCTAAATTA
 TAAGATTAAAT AGTCTCAGG ACCTAACAGT TATATGTCAT TTGTTTTTTT TTTTGTGAG ATGGCGTCTC
 ACTCTGTAC CCAAGCTGGA GTGCAGTGGT ATGACCTTGG CTCACCTGCAG CCTCTGCCTC ACGGGTCAA
 5 GGGATCGTTC TGCCITAGCC TCCTGAGTAG CTGGGATTAT AGGCGCCTGC CACCACGCCT GGCTAATTTT
 TTTAGTAGAG ACGCGGTTTC GCCATGTTGG CCAGGCTGGT CTCGAACTCC TGACCTCAGG TGGTCCACCC
 GCCTTGGCCT CCCAAGTGC TGGGATTACA GGTGTGAGCC ACCGCGCCCA GCCTATATGT AATAATTTTA
 ATGGGACCAT GAAITGAATA TTTCTTCCTT GAATAGCAAT GACATAGCCC CTCTATTGT ACATCTGCAA
 10 GCTGATACAG GGAATTCCTT TGTACCTGCG CTCTTCCTG CCAGTCAGCT ATGGGGGTGA AAGTGTAGGG
 GTTCATCCAA GTCCIAAAAC TGGTAGCAAC TCCTAGGGCA GGGCTGATCT GGAAGGACAG ACCCTAGGGG
 AGGGTGGAGA TTTA AAAAG AGTCTGAAG GTAGTAAGAA GGAAATGAGG AGTAGTGTA GGAAGGGGCT
 AACTTTTTTC TTCTTGCTTC TCTTCTTAT CTCACCTGCC CTCCCCTTG TATCCCTTCT TCTTTTTTCC
 CTTTCTTTT TTGCTCTCAC TTCAITCGTG CATCTTTCT GATTCTCTT ACCTTGCTAA AAGGAGAAGT
 TTGTTTGGGT ATCCITATATC AATGGCAGGA AGGTTGTTTT CTCTTTTACC TTTATCCTAT AGATTATAT
 15 TCTCAACACC AACCTCCTCC TTTTTCAGTT TCCTTCTTGC TTCTCTTGAC ACCACAGAGT TTGCAGCTAG
 TACTTGGAGA GGAAAATTAA ACAGAGATAC TTGGACCAAG AGTAAGATGA AGAAAGTCTA AACAACAGTA
 TAGTCTATAG TGGCAAGAGA GAGTATGGGG GCTGCTTAGC CAGGGTGGCT GTACATAAAG TATATCTTCA
 GTTTATATAA ACTGCTTATA GATGGAAATC AGAAAATTTA AATTCTCTTA ACTGTCCAAG AAAATTTCTCA
 TTTTTTCAA TTTGGGACTG ATAAATGTGA CCAGTCTGCG TTACTGTCCA TTGCCTGAA TGGAGCTTTG
 20 AGGTGGACTG TATAATTTCT TCAATCTTAA CTCCAAATTC TGATCAGCGA CGCCCTCTGC TGTACTAT
 TAATATTTAT TTACCAATCA AAGTAAAGTA TTGAAGTTT CCTGGCAGTT TTCACITTTGT GTTTTACTCC
 ATTTAGGCTG CTATAACAAA ATCCCTTAAA CTGGGTAAAG GATTATAAAT ATTAGAAAT TATCTCTCAC
 AGTCTGGAA GCTGGGAAGC CCAATATCAA GGCACCAGTA GATTGGGTGT CTAACGAGGG TGTGCCGTCT
 GCTTCAAAAA TGGCCCTCTG TTGCTGCATC CTCACCTAGT GCAAGGGGCA AGACAGCTCC CTTCACCTC
 25 TTTTATAAGG GCACITATGT CATTATGAG GGCAGAGCCC TCATGACTTA ATCACTTCCC CAAAGGCCCC
 ACCTCTAAT AGTATCACAT TGGGTGTTAG GTGTCTGGGA GGACACCAAT CTTCAGCCA TATCATCTCA
 CTTGGAAAA AGTCAAAATA AAACCAGTAG ATTTAATTA TATTACATA TTTATAGAAG CATGTGATGT
 ATCATTCCTT GTATTAATTT CTGGGGTTG CCGTAACAAG TTACCACAAA CTAGGTGGCT TAAAACAATA
 30 GAATTTTATT CTCTCACATT TCTAGAGGCA GAAGTTCACA GTGTGTCAAT AGGGCCATGT TCTCTGGAAG
 GCTTTAGGGG AGAATATATT TCATATCTTT CTCTTAGCTT CTCGGTGTCA CTGGCAATCC TTAGCTTACT
 TTGGCTTTCT GTGCTTTCAC ATCATCTTTT TATAAGAACA CCAGTGATAG TGATTAAGGG CATACCTTAC
 TTTAATATGA CCTCATCTTA ACTAATTATG TCTTCAATAA CCCTATTTCC AAATAAGGCC ACATTCTGAA
 GTATTGGGAG TTAGAACTTA AAGCTTTTGG GGAGGGACAC AGTTCACCCC ATAACAACCC CTAAAAATCGA
 TATTTATTCT CAATTAAGTC TTGAAATTGG TTTCAAAAAG AGAATATTCT ATTAGAGTTT TTAATGTATA
 35 GTTTTAACAT ATACTTCTTT AGCCCCAAT TTTTTTTTTT TTTTTTTTTT TTTTGTGAGC TTTTGTGAGC
 GGAGTCTCGC TCTGTCGCCC AGGCCGGAAT GCGGACTGCA GTGGCGCAAT CTCGGCTCAC TGCAAGCTCC
 GCTTCCCGGG TTCAAGCCAT TCCCCTGCCT CAGCCTCCCG AGTAGCTGGG ACTACAGGCG CCTGCCACCG
 CGCCCGGCTA ATTTTITTTGT ATTTTITAGTA GAGACGGGGT TTCACCTTGT TAGCCAGGAT GGTCTCGATC
 40 TCCTGACCTC ATGATCCACC CGCCTCGGCC TCCCAAAGTG CTGGGATTAC AGGCGTGAGC CACCGCGCCC
 GGCCTGCCCC CAATATTTTA GTTTTCTAT AAACAGGGAA ATTTATTGT GTGGCCCTTA GAACTAATTT
 AATTTCACAT CTAAITCCTA CTTATGTTTA TATAATGCTT TTAGAAAATTT GTATTATTCA GAAAAATAAC
 ATATACTATT CTATCTGTTG CTTACACTTA GATTTTATTG CTTGCTATAT TTAATTTTA TTAGTATTTT
 AATTGTTTTA TTAAAGGAAG AATGTGCCTG TAATCTCAGC ACTTTTGAGA GGCCAAGGCA AAGGATTGC
 45 TTGAGCCCAG GAGTITGAGA CCAGACTGAG CAACACAGGG AGACCCCAT CTCTACAAA AATAAAAAA
 TTCTCCAGGC CTCAATGGCAC ATACCTGTAG TTCTAGTTAC TTGGGAGACT GGGGTGGGAG GATGCATTGA
 GCCCAGGAGA TTGAGGCTGC AGTGAGCCAT GATCAGGCCA CTGTACTCCA GCTTGGACAA CAGAGTGAGA
 GCTTGCTTAG ATAGATAGAT AGATAGATAA TCTAAATAGA TAATAGACAG ATTATCTAAA TAGATAATAG
 ACAGATTATC TAAATAGATA ATAGACAGAT TATCTAAATA GATAATAGAC AGATTATCTA AATAGATAAT
 AGACAGATTA TCTAAATAGA TAATAGACAG ATTATCTATC TAAATAGATA ATAGATTATC TAAATAGATA
 50 ATAGATAGAT AGATTAGATA GATAGATAGA TAGATAGAGC TTGGACAACA GAGTGAGAGC CTGTCTAGAT
 AGATAGAAAC AAACAAAGAA AGAAAGAATG GTGCTCATAT TTTAAAGCAT TGAAAAATGG TCTTCTTGC
 TTATATTACC CACAATCTCT TTGTTGGCAT TAAGATGCAA ACTTTGTTTT AAACAGTTGA GTAAATCAA
 GATGGGACTG TTAAAGTTATT TGTGTTATTT ACCTGCTTTT TGAAAATGTA AAAATAAAAC TCTAGGTTTA
 ATTAGTAGTA TGCTATTTAG TAATGAAGTA AAGCTAGAGG CTTCGAACAA ATCTTGTGTA ATTTCTCTT
 55 GAATGAGAGA GAAATATTTAA AGTAAGCAAA CAAATAAGTT GTGTGTCACC ACTCATTAG TCAATTAACA
 AGTATTCCA GAGTACTTAT TCTGTGCCAG GAAATGTTGT AAGTGCCCTC AACAACTTAG AGTCTAGCCT
 GAGACACAAG TAACATAGTA ATTATTATAG AATGGTATGA TCTTTGGAGG ACTGGGTATT GGCTGGCTCA
 TGGGAGTACA AGATAGGTAC CCAGTGATGA AGTCAGGAAA GGTTCCTTAT GGTGATATGA TGACGTCTAT
 GCTGATTATA AGGTGAGTGT AGAATAAACT TTGTGCTTTT AAATTGTCAT AGCACTGTAT TAGAGAGTTC
 60 ATCTTCAAAA TAATAGAAAA GGCTGAGTGT GGTGACCCAT GGCTGTAATC CCAGCACTTT GGGAGGCCGA
 GGTGGGCAGA TTGCTTGAGC TAGGAGTTTC AGACCAGGCT GGCCAACATG GTGAAACCCC GTCTCTACTA
 AAAATACAAA AATTAGCCAG GAGTGATGGT GCGCACCTGT AATGCCAGCT ACTTGGGAGG CTGAGGCAGG

004040" 6294560
 004040" 6294560
 004040" 6294560

AGGATCACTT GAACCCAGGA GGTGGAGGTT GAAGTAAGCC GAGGTCATGC CACTGCACTC CAGCCTGGGC
 AACAGAGTGA GACTCCACT CAAAAAATAA AAAAATGATC AAAGAAAGGT GAATTTTCAT CTACCCATT
 TCTGCTGAGG AAAA TGGACT ATTTTCAAAT ATTTTAAATA AGGGTCAAAA TGAGGGATC GCATTTTTC
 AAGTTTTATG ATTTATTAA CTTGTGGAAAC AAAAATAAAC CAGAAACCAC CACCTCTCAC GCCAAAGCTC
 5 ACACCTTCAG CCTCCAACAT GAAGGTCTCC GCAGCACTTC TGTGGCTGCT GCTCATAGCA GCTGCCTTCA
 GCCCCAGGG GCTCGCTGGG CCAGCTTCTG TCCCAACCAC CTGCTGCTTT AACCTGGCCA ATAGGAAGAT
 ACCCCTTCAG CGACTAGAGA GCTACAGGAG AATCACCAGT GGCAAAATGTC CCCAGAAAGC TGTGATCTTC
 AAGACCAAAC TGGC CAAGGA TATCTGTGCC GACCCCAAGA AGAAGTGGGT GCAGGATTCC ATGAAGTATC
 TGGACCAAAA ATCTCCAACCT CCAAAGCCAT AAATAATCAC CATTTTGTAA ACCAAACCAG AGCCTGAGTG
 10 TTGCCTAATT TGTTTCCCT TCTTACAATG CATTCTGAGG TAACCTCATT ATCAGTCCAA AGGGCATGGG
 TTTTATTATA TATAATATA TTTTTTTTTT AAAAAAATC GTATTGCATT TAATTTATTG AGGCTTTAA
 ACTTATCCTC CATGAATATC AGTTATTTTT AAACCTGTAAA GCTTTGTGCA GATTCCTTAC CCCCTGGGAG
 CCCCATTTCG ATCCCTGTG ACGTGTGGGC AATGTTCCCC CTCTCCTCTC TTCTCCCTG GAATCTTGTA
 AAGGTCTGG CAAATGATGAT CAGTATGAAA ATGTCATTGT TCTTGTGAAC CCAAAGTGTG ACTCATTTAA
 15 TGGAAGTAAA TGTGTGTTTA GGAATAC ATGAAGGTCT CCGCAGCACT TCTGTGGCTG CTGCTCATAG
 CAGCTGCCTT CAGCCCCAG GGGCTCGCTG GGCCAGCTTC TGTCCCAACC ACCTGCTGCT TTAACCTGGC
 CAATAGGAAG ATACCCCTTC AGCGACTAGA GAGCTACAGG AGAATCACCA GTGGCAAATG TCCCCAGAAA
 GCTGTGATCT TCAAGACCAA ACTGGCCAAG GATATCTGTG CCGACCCCAA GAAGAAGTGG GTGCAGGATT
 CCTGAAGTA TCTGGACCAA AAATCTCCAA CTCCAAAGCC ATAA CCACATATTC CCCTCCTTTT CCAAGGCAAG
 20 ATCCAGATGG ATTAATAAAT GTACCAAGTC CCTCCTACTA GCTTGCTCT CTCTGTCTCT CTTCTACTTC
 CTAGGATCTG GAATCTGGTC AGCAATCAGG AATCCCTTCA TCGTGACCCC CGCATGGGCA AAGGCTTCCC
 TGGAATCTCC CACAATGTCT GCTCCCTATA AAAGGCAGGC AGATGGGCCA GAGGAGCAGA GAGGCTGAGA
 CCAACCCAGA AACCACCACC TCTCAGCCA AAGCTCACAC CTTCAGCCTC CAACATGAAG GTCTCCGAG
 CACTTCTGTG GCTGCTGCTC ATAGCAGCTG CCTTCAGCCC CCAGGGGCTC GCTGGGCCAG GTAAGCCCC
 25 CAACTCCTTA CAGGAAAGGT AAGGTAACCA CCTCCAGGCT ACTAGGTCAG CAAGAATCTT TACAGACTCA
 CTGCAAATTC TCAATTTGAA AAATAGGGAA ACAGGTTTTG TGGGTGGACA AGAAATGCCT CAACCGTCAC
 ATCCAGTCAC TGGAAGAGCC AGAACTAGAA AGCTCCCGAG TCTTTTCCCC ACATTCAAGA GGGCCGCTGG
 GTGCATCCTT ACCCAGCTAT CCTTACAGTG TTTGGGAATG GGAATGGCT CTGTCTTACT GTGGGCATGG
 TGGGCATTTT TGGCAGTGGG AGAGAAGGAA AATCTGTGTA TTAGAAGCTC AGTATGTTAA TTCGACTCCA
 30 GGACAGCTTT CAGAGACAGT GGCTAAGAGA AGAACGAGGT CCCAGGGGAT CTCTTGAGGT GACTTATTTT
 GACACTCTTT GGGAAAGTTA TCTAGGAGAT TTGTTCCATA ACTCATTTTC CCATACTCTG GTGACAAATT
 TACTGAGTGT ATCGGTCCCA CTGAGCCAGT GCATAGCATG GTAACAAACA GTTCTAAATT ATCAATGACT
 TAACAGAATT AACTAAATTA ACAAAGTTA CTTTCTCACT TGTACTAAAT ATCTATAATG TATGGGCTCA
 GGCTTCTGCA TTTTATACTC AGGATTCTAG ACTGATGGAG AAGTTGCCAT GTGGGGGAAC ATTGATGGAT
 35 ATCTGTATAA AGCAAGAAAG AGCTCTCAGG AGCTTGCAT AGGCAATGCA CTGTGGCTCA AAAATGACAC
 CCATCACTTT GTCTCTTCT TTAGTGATCA AAACATAATTA ATGCCCTCAA CCAAACAAAA TGAGCCAAAG
 AATGCAAGTC TACCTGTGT CTCAAAACAG AGGATGGAGA ATATTTGGTG AAAATTACCA TGACCATCAC
 ATGGCCACGT AGGTCTTTAT AATGACAGAG CTAGCATTTG TCACATTGAC CAAGCTTTGT CCATACACTC
 TACAGTAATG ATGAGTCCTC AGTGCACAGG GGAGGATGCT GAAGACACAG GACAGCATCC TCCAGACACA
 40 TAAGACTTCA GAGCAGAGGG ATTCTCCCTC CACCTCTCGC AATTCCTTGC TTTCTCCTAA CTTCCTTAC
 AAAGTCATGC TTGCAAAATGT CTATGTATCA TCATGTGGCT CATTTTTCCT TCTGTTCATT TTTTTCCTC
 AAAATTGACG TTCTGTCCCA ACCACCTGCT GCTTTAACCT GGCCAATAGG AAGATACCC TTCAGCGACT
 AGAGAGCTAC AGGAAGATCA CCAGTGCCAA ATGTCCCGAG AAAGCTGTGA TGAAGTAAA TAAAGTTCAC
 CCTCCCTAG ACAAATAAAT AATGTCTAGG GCACAGAGTC AAGAACTGTG GGAGTCATAG ACTCTGATAG
 45 TTTGACCTCT ATGGTCCAAT TCATTAATTT TCACAAGTGA GTGTTCACTC CCAGCTCCCT GCCTGGGAGA
 TTGCTGTAGT CATAATCAAT TCTTCAAGTC AAGAGCAAAG ATGGTTTAC TGGGCCTTTA AGAGCAGCAA
 CTAACCCAAG AGTCTCATCC TTCTCCTCT CCGTAGCAAC CCTTGTGTTA GGGGCAGATG GTCCTTAAAT
 ATTTAGGGTC AAAATGGGCAG AATTTTCAAA AACAATCCTT CCAATTGCAT CCTGATTCTC CCCACAGCTT
 CAAGACCAAA CTGC CCAAGG ATATCTGTGC CGACCCCAAG AAGAAGTGGG TGCAAGATTG CATGAAGTAT
 50 CTGGACCAAA AATCTCCAAC TCCAAAGCCA TAAATAATCA CCATTTTGA AACCAACCA GAGCCTGAGT
 GTTGCTTAAT TTGTTTCCC TTCTTACAAT GCATTCTGAG GTAACCTCAT TATCAGTCCA AAGGGCATGG
 GTTTTATTAT ATATATATAT ATATATTTT TTTTAAAAA AAACGTATTG CATTTAATTT ATTGAGGCTT
 TAAACTTAT CCTCCATGAA TATCAGTTAT TTTTAACTG TAAAGCTTTG TGCAGATTCT TTACCCCTG
 GGAGCCCCAA TTCTATCCCC TGTCACGTGT GGGCAATGTT CCCCCTCTCC TCTCTCTCCT CCTGGAATCT
 55 TGTAAGGTGCT CTGGCAAAGA TGATCAGTAT GAAAATGTCA TTGTTCTTGT GAACCCAAAG TGTGACTCAT
 TAAATGGAAG TAAATGTTGT TTAGGAATAC ATAAAGTATG TGCATATTTT ATTATAGTCA CTAGTTGTAA
 TTTTGTGTG GGAATCCAC ACTGAGCTGA GGGGG GCCAGGTCGC TGTGTTGTTA CGCCGCCGCT
 CGCCGCCGCC CGCCGCTCAG CGTCCGCCG CGCCATGGGA GGCCGGAGCC GAGCCGGGGT CGGCGCAGC
 CAGGGACCCC CCAGAGGCGG GGCCTGTGGG ACCGCTATGG GCGTGGAGAT CGAGACATC TCCCCGGAG
 60 ACGGAAGGAC ATTC CCAAG AAGGGCCAAA CGTGTGTGGT GCACTACACA GGAATGCTCC AAAATGGGAA
 GAAGTTTGAT TCAT CAGAG ACAGAAACAA ACCTTCAAG TTCAGAATTG GCAAACAGGA AGTCATCAAA
 GGTTTTGAAG AGGGTGCAGC CCAGATGAGC TTGGGGCAGA GGGCGAAGCT GACCTGCACC CCTGATGTGG

CATATGGAGC CACCGGCCAC CCCGGTGTCA TCCCTCCCAA TGCCACCCTC ATCTTTGACG TGGAGCTGCT
 CAACCTAGAG TGAAGGCAGG AAGGAACTCA AGGTGGCTGG AGATGGCTGC TGCTCACCTC CCTAGCCTGC
 TCTGCCACTG GGACGGCTCC TGCTTTGGG GCTCTTGATC AGTGTGCTAA CCTCACTGCG TCATGGCATC
 ATCCATTCTC TCTGCCCAAG TTGCTCTGTA TGTGTTGCTC AGTGTTCATG CGAATTCTTG CTTGAGGAAA
 5 CTTGCGTTGC AGATTGAAGC ATTTCAAGTT GTGCATTTTG TGTGATGCAT GTAGTAGCCT TTCTGATGA
 CAGAACACAG ATCTCTGTG CGCACAACTC AACTGCCTT ACCTTCACTT AAACCACACA CACAAGGTGC
 TCAGACATGA AATCTACATG GCGTACCGTA CACAGAGGGA CTTGAGCCAG TTACCTTTGC TGTCACTTTC
 TCTCTTATAA ATTCCTGTAG CTGCTCACTT AAACAATGTC CTCTTTGAGA AAATGTAAAA TAAAGGCTCT
 GTGCTTGACA GAATTCGGGC CGCCGCCAGG TCGCTGTTGG TCCACGCCGC CCGTCGCGCC GCCCGCCCGC
 10 TCAGCGTCCG CCGCGGCCAT GGGAGTGCAG GTGGAACCA TCTCCCCAGG AGACGGGGCG ACCTTCCCCA
 AGCGCGGCCA GACCTGCGTG GTGCACTACA CCGGGATGCT TGAAGATGGA AAGAAATTTG ATTCCTCCCG
 GGACAGAAAC AAGCTCTTTA AGTTTATGCT AGGCAAGCAG GAGGTGATCC GAGGCTGGGA AGAAGGGGT
 GCCCAGATGA GTGTGGGTCA GAGAGCCAAA CTGACTATAT CTCCAGATTA TGCCTATGGT GCCACTGGGC
 ACCCAGGCAT CATCCACCA CATGCCACTC TCGTCTTCGA TGTGGAGCTT CTAAACTGG AATGACAGGA
 15 ATGGCCTCCT CCTTAGCTC CCGTGTCTTG GATCTGCCAT GGAGGGATCT GGTGCCTCCA GACATGTGCA
 CATGAGTCCA TATGGAGCTT TTCTGATGT TCCACTCCAC TTTGTATAGA CATCTGCCCT GACTGAATGT
 GTTCTGTAC TCAGCTTTGC TTCCGACACC TCTGTTCTT CTTCCTCTT CTCTCGTAT GTGTGTTTAC
 CTAAACTATA TGCCATAAAC CTCAAGTTAT TCATTTTATT TTGTTTTCAT TTTGGGGTGA AGATTCACTT
 TCAGTCTTTT GGATATAGGT TTCCAATTAA GTACATGGTC AAGTATTAAC AGCACAAGTG TAGGTTAAC
 20 ATTAGAATAG GAAITGGTGT TGGGGGGGG GTTGTCAAGA ATATTTTATT TTAATTTTTT GGTGAAATT
 TTTATCTATT ATATATTAAA CATTCTTGCT GCTGCGCTGC AAAGCCATAG CAGATTTGAG GCGCTGTTGA
 GGACTGAATT ACTCTCCAAG TTGAGAGATG TCTTTGGGT AAATTAAG CCCTACCTAA AACTGAGGTG
 GGGATGGGGA GAGCTTTTGC CTCCACCATT CCCACCACC CTCCCTTAA ACCCTCTGCC TTTGAAAGTA
 GATCATGTTC ACTGCAATGC TGGACACTAC AGGTATCTGT CCCTGGGCCA GCAGGGACCT CTGAAGCCTT
 25 CTTTGTGGCC TTTTTTTTT TTATCTCTGT GGTTTTCTA ATGGACTTTC AGGAATTTTG TAATCTCATA
 ACTTTCCAAG CTCCACCACT TCCTAAATCT TAAGAACTTT AATTGACAGT TTCAATTGAA GGTGCTGTTT
 GTAGACTTAA CACCCAGTGA AAGCCAGCC ATCATGACAA ATCCTTGAAT GTTCTCTTAA GAAAATGATG
 CTGGTCATCG CAGCTTCAGC ATCTCCTGTT TTTTGATGCT TGGCTCCCTC TGCTGATCTC AGTTTCTCTG
 CTTTCTCTCC CTCAGCCCTT TCTACCCCT TTGCTGTCT GTGTAGTGAT TTGGTGAGAA ATCGTGTCTG
 30 CACCTTCCC CCAGCACCAT TTATGAGTCT CAAGTTTAT TATTGCAATA AAAGTGCTTT ATGCCGAAT TC
 GCCGCCGCCA TGGGAGTGCA GGTGGAACCC ATCTCCAGG GAGACGGGCG CACCTTCCCC AAGCGCGGCC
 AGACCTGCGT GGTGCACTAC ACCGGGATGC TTGAAGATGG AAAGAAATTT GATTCCTCCC GGGACAGAAA
 CAAGCCCTTT AAGTTTATGC TAGGCAAGCA GGAGGTGATC CGAGGCTGGG AAGAAGGGGT TGCCAGATG
 AGTGTGGGTG AGACAGCCAA ACTGACTATA TCTCCAGATT ATGCCTATGG TGCCACTGGG CACCCAGGCA
 35 TCATCCCAAC ACATGCCACT CTCGTCTTCG ATGTGGAGCT TCTAAACTG GAATGACAGG AATGGCCTCC
 TCCCTTAGCT CCCTGTCTT GGATCTGCCR TGGAGGATC TGGTGCCTCC AGACATGTGC ACATGRTCC
 ATATGGAGCT TTCTCTGATG TTCCACTCCA CTTTGTATAG ACATCTGCCC TGACTGAATG TGTCTGTCA
 CTCAGCTTTG CTTCGACAC CTCTGTTTCC TCTTCCCTT TCTCTCGTA TGTGTGTTTA CTTAACTAT
 ATGCCATAAA CCTCAAGTTA TTCA AAGCTTCTAC CTAGTCTGG TGCTACACTT ACATTGCTTA CATCCAAGTG
 40 TGGTTATTTT TGTGGCTCCT GTTATAACTA TTATAGCACC AGGTCTATGA CCAGGAGAAT TAGACTGGCA
 TTAAATCAGA ATAAAGAGATT TTGCACCTGC AATAGACCTT ATGACACCTA ACCAACCCCA TTATTTACAA
 TTAAACAGGA ACACAGGGAA TACTTTATCC AACTCACACA AGCTGTTTTT CTCCAGATC CATGCTTTTT
 TGGCTTTATT ATTT TTAGA GATGGGGGTG TCACTATGTT GCCCACTG GACTAAAAAT CTGGGCTCA
 AGTGATTGTC CTGCCTCAGC CTCTGAATA GCTGGGACTA CAGGGGCATG CCATCACACC TAGTTCATTT
 45 CCTCTATTTA AAATATACAT GGCTTAAACT CCAACTGGGA ACCCAAAACA TTCATTTGCT AAGAGTCTGG
 TGTCTACCA CCTGAACTAG GCTGGCCACA GGAATTATAA AAGCTGAGAA ATTCTTTAAT AATAGTAACC
 AGGCAACATC ATTC AAGGCT CATATGTAAA AATCCATGCC TTCTTTCTC CCAATCTCCA TTCCAAACT
 TAGCCACTGG TTCTGCTGA GGCTTACGC ATACCTCCCG GGGCTTGAC ACACCTTCT CTACAGAAGA
 CACACCTTGG GCATATCCTA CAGAAGACCA GGCTTCTCTC TGGTCTTGG TAGAGGGCTA CTTTACTGTA
 50 ACAGGGCCAG GGTGAGAGT TCTCTCTGA AGCTCCATCC CCTCTATAGG AAATGTGTTG ACAATATTCA
 GAAGAGTAAG AGGATCAAGA CTCTTTGTG CTCAAATACC ACTGTTCTCT TCTCTACCCT GCCCTAACCA
 GGAGCTTGTC ACCCAAACCT CTGAGGTGAT TTATGCCTTA ATCAAGCAAA CTTCCTCTT CAGAAAAGAT
 GGCTCATTTT CCCTCAAAAG TTGCCAGGAG CTGCCAAGTA TTCTGCCAAT TCACCCTGGA GCACAATCAA
 CAAATTCAGC CAGACACAA CTACAGCTAC TATTAGAAT ATTATTATTA ATAAATTCCT CTCCAAATCT
 55 AGCCCTTGA CTTCGGATT CACGATTTCT CCCTCTCTC TAGAAACTTG ATAAGTTTCC CGCGCTTCCC
 TTTTCTAAG ACTACATGTT GTGCATCTTA TAAAGCAAAG GGGTGAATAA ATGAACCAAA TCAATAACTT
 CTGGAATATC TGCAAAACA AATAATATCA GCTATGCCAT CTTTCACTAT TTTAGCCAGT ATCGAGTTGA
 ATGAACATAG AAAAATACAA AACTGAATTC TTCCCTGTAA ATTCCCCGTT TTGACGACGC ACTGTAGCC
 ACGTAGCCAC GCCTACTTAA GACAATTACA AAAGCGAAG AAGACTGACT CAGGCTTAAAG CTGCCAGCCA
 60 GAGAGGGAGT CATTTCAATT GCGTTTGTG CAGCAAAGGT ATTGTCTCTA CATCTCTGGC TATTAAGTA
 TTTTCTGTTG TTGTTTTTCT CTTTGGCTGT TTTCTCTCAC ATTGCCTTCT CTAAAGCTAC AGTCTCTCT
 TTCTTTTCTT GTCCCTCCCT GGTGTGTAT GTGACCTAGA ATTACAGTCA GATTCAGAA AATGATTCTC

004040 " 6494560

TCATTTTGCT GATAAGGACT GATTCGTTTT ACTGAGGGAC GGCAGAACTA GTTTCCTATG AGGGCATGGG
 TGAATACAAC TGAGGCTTCT CATGGGAGGG AATCTCTACT ATCCAAAATT ATTAGGAGAA AATTGAAAAT
 TTCAAACCTT GTCTCTCTCT TACCTCTGTG TAAGGCAAAT ACCTTATTCT TGTGGTGTGT TTGTAACCTC
 5 TTCAAACCTT CATTGATTGA ATGCCTGTTC TGGCAATACA TTAGGTTGGG CACATAAGGA ATACCAACAT
 AAATAAAACA TTCTAAAAGA AGTTTACGAT CTAATAAAGG AGACAGGTAC ATAGCAAAC TTTTCAAAGG
 AGCTAGAAGA TGGAGAAAAT GCTGAATGTG GACTAAGTCA TTCAACAAAG TTTTCAGGAA GCACAAAGAG
 GAGGGGCTCC CCTCACAGAT ATCTGGATTA GAGGCTGGCT GAGCTGATGG TGGCTGGTGT TCTCTGTTGC
 AGAAGTCAAG ATGGCCAAAG TTCCAGACAT GTTGAAGAC CTGAAGAACT GTTACAGGTA AGGAATAAGA
 10 TTTATCTCTT GTGAATTAAAT GAGGGTTTCA AGGCTCACCA GAATCCAGCT AGGCATAACA GTGCCAGCA
 TGGGGGACAG CCGGCAGAGG TTGTAGAGAT GTGTACTAGT CCTGAAGTCA GAGCAGGTTT AGAGAAGACC
 CAGAAAAACT AAGCATTCAG CATGTTAAAC TGAGATTACA TTGGCAGGGA GACCGCCATT TTAGAAAAAT
 TATTTTGTAG GTCTGCTGAG CCCTACATGA ATATCAGCAT TCCATTGACA GGAAAACTTG ATCTCATTCA GGAACAGGAA
 ATGCCCTGAT ATAAGAATGG GTTTTACTGG TCCATTCTCA AGGCAAATCT CACTCAGATG TAGAAGAAAG
 ATGGCTCCAC AGCAAGCTGG GCATGTGAAC TCACATATGC AGGCAAATCT CACTCAGATG TAGAAGAAAG
 15 GTAAATGAAC ACAAGATAA AATTACGGAA CATATTAAC TAACATGATG TTTCCATTAT CTGTAGTAAA
 TACTAACACA AACTAGGCTG TCAAAATTTT GCCTGGATAT TTTACTAAGT ATAAATTATG AAATCTGTTT
 TAGTGAATAC ATGAAAGTAA TGTGTAACAT ATAATCTATT TGGTTAAAAA AAAAAGGAAG TGCTTCAAAA
 CCTTTCTTTT CTCTAAAGGA GCTTAACATT CTCCCTGAA CTTCATTAAG AGCTCTTCAA TTTGTTAGCC
 AAGTCCAATT TTTAAGATA AAGCACAGGT AAAGCTCAAA GCCTGTCTTG ATGACTACTA ATTCCAGATT
 20 AGTAAGATAT GAATTACTCT ACCTATGTGT ATGTGTAGAA GTCCTTAAAT TTCAAAGATG ACATTAATGG
 CCATGTGTAT GTGTGTGACC CACAACATAT ATGGTCATTA AAGTACATTG GCCAGAGACC ACATGAAATA
 ACAACAATTA CATTCTCATC ATCTTATTTT GACAGTGAAA ATGAAGAAGA CAGTTCCTCC ATTGATCATC
 TGTCTCTGAA TCAGGTAAGC AAATGACTGT AATTCTCATG GGACTGCTAT TCTTACACAG TGGTTTCTTC
 ATCCAAAGAG AACAGCAATG ACTTGATCTT TAAATACTTT TGTTTTACCC TCACTAGAGA TCAGAGAGACC
 25 TGTCTTTCAT TATAAGTGAG ACCAGCTGCC TCTCTAAACT AATAGTTGAT GTGCATTGGC TTCTCCAGA
 ACAGAGCAGA ACTATCCCAA ATCCCTGAGA ACTGGAGTCT CCTGGGGCAG GCTTCATCAG GATGTTAGTT
 ATGCCATCCT GAGAAAGCCC CGCAGGCCGC TTCACCAGGT GTCTGTCTCC TAACGTGATG TGTGTGGTT
 GTCTTCTCTG ACACCAAGCAT CAGAGGTTAG AGAAAGTCTC CAAACATGAA GCTGAGAGAG AGGAAGCAAG
 CCAGCTGAAA GTGAAGAAGTC TACAGCCACT CATCAATCTG TGTATTGTG TTTGGAGACC ACAATAGAC
 30 ACTATAAGTA CTGCCTAGTA TGTCTTCAGT ACTGGCTTTA AAAGCTGTCC CCAAAGGAGT ATTTCTAAAA
 TATTTTGAGC ATTGTTAAGC AGATTTTAA CCTCTGAGA GGGAACTAAT TGGAAAGCTA CCACTACTA
 CAATCATTGT TAACCTATTT AGTTACAACA TCTCATTTT GAGCATGCAA ATAAATGAAA AAGTCTTCT
 AAAAAATCA TCTTTTATC CTGGAAGGAG GAAGGAAGGT GAGACAAAAG GGAGAGAGGG AGGGAAGCCT
 AATGAAACAC CAGTTACCTA AGACCAGAAT GGAGATCCTC CTCACTACCT CTGTTGAATA CAGCACCTAC
 35 TGAAAGAACT TTCAATCCCT GACCATGAAC AGCCTCTCAG CTCTGTGTTT CCTTCTCAC AGAAATCCTT
 CTATCATGTA AGCTATGGCC CACTCCATGA AGGCTGCATG GATCAATCTG TGTCTCTGAG TATCTCTGAA
 ACCTCTAAAA CATCTAAGCT TACCTTCAAG GAGAGCATGG TGGTAGTAGC AACCAACGGG AAGGTTCTGA
 AGAAGAGACG GTTCAGTTTA AGCCAATCCA TCACTGATGA TGACCTGGAG GCCATCGCCA ATGACTCAGA
 GGAAGGTAAG GGGTCAAGCA CAATAATATC TTTCTTTTAC AGTTTAAAGC AAGTAGGGAC AGTAGAATTT
 40 AGGGGAAAAAT TAAACGTGGA GTCAGAATAA CAAGAAGACA ACCAAGCATT AGTCTGGTAA CTATACAGAG
 GAAAATTAAT TTTTATCCTT CTCCAGGAGG GAGAAATGAG CAGTGGCCTG AATCGAGAAT ACTTGCTCAC
 AGCCATTATT TCTTAGCCAT ATTGTAAAGG TCGTGTGACT TTTAGCCTTT CAGGAGAAAAG CAGTAATAAG
 ACCCATACG AGCTATGTTT CTCTCATACT AACTATGCTT CCTTGGTCAT GTTACATAAT CTTTTCGTGA
 45 TTCAGTTTCC TCTACTGTAA AATGGAGATA ATCAGAATCC CCCACTCATT GGATTGTTGT AAAGATTAAG
 AGTCTCAGGC TTTAAGACT GAGCTAGCTG GGCCCTCCTG ACTGTTATAA AGATTAAATG AGTCAACATC
 CCCTAACTTC TGGACTAGAA TAATGTCTGG TACAAAGTAA GCACCAATAA AATGTTAGCT ATTACTATCA
 TTATTATTAT TATTATTATT TTTTTTTTTG AGATGGAGTC TGGCTCTGTC ACCCAGGCTG GAGTGCAGTG
 GCACAATCTC GGCTCACTGC AAGCTCTGCC TCCTGGGTTT ATGCCATTCT CCTGCCTCAG CCTCCCGAGT
 50 AAGCTGGGAA TACAGGCACC CGCCACTGTT CCCGGCTAAT TTTTGTATT TTTAGTAGAG ACGGAGTTTC
 ACCGTGGTCT CCATCTCTCT GTGATCCACC CACCTTGGCC TCCCAAAGTG CCGGGATTAC AGGCGTGAGC
 CACCGCGCCC GGCTATTAT TATTATTATT ACTACTACTA CTACCTATAT GAATACTACC AGCAATACTA
 ATTTATTAAT GACTAGATTA TGTCTAAACC TCACAAGAAT CCTACCTTCT CATTTTACAT AAAAGGAAAC
 TAAGCTCATT GAGATAGGTA AACTGCCCAA TGGCATACAT CTGTAAGTGG GAGAGCCTCA AATCTAATTC
 AGTTCTACCT GAGTAAAAAA ATCATGGTTT CTCCTCCATC CCTTTACTGT ACAAGCCTCC ACATGAACTA
 55 TAAACCCAAT ATTCCTGTTT TTAAGATAAT ACCTAAGCAA TAACGCATGT TCACCTAGAA GGTTTTAAAA
 TGTAACAAAA TATAAGAAAA TAAAAATCAC TCATATCGTC AGTGAGAGTT TACTACTGCC AGCACTATGG
 TATGTTTCCT TAAAACTTTT GCTATACACA TACCTACATG TGAACAAATA TGTCTAACAT CAAGACCACA
 CTATTACAA CTTTATATCC AGCTTTTCTT ACTAGCAAT GTATTGAGGA CATTTTAGAG TGCCCGTTT
 TCACCATATAT AAGCAATGCA ACAATGAACA TCTGTATAAA TAAATATTCA TTTCTCTCAC CTTTATTTC
 60 CTTAGAATAT ATTCCTAGAA GTAGAATTTT CCAGAGCCAT GAGGATTTGT GACGCTATTG ATATGTGCCA
 CTTTGCATCT TCTGTGACAT ATATAATTAT TTTTAATGCA TTCATTTTTT TCTCAGAGTG CATTCTGTTG
 AAAACATAGA CGGCAAAATAC TGGTAGTCTT CCTTGTGAGT TAGAAACACC CAAACAATGA AAAATGAAAA

004040" 62964560

AGTTGCACAA ATAGTCTCTA AAAACAATGA AACTATTGCC TGAGGAATTG AAGTTTAAAA AGAAGCACAT
 AAGCAACAAC AAGGATAATC CTAGAAAACC AGTTCGTCTG ACTGGGTGAT TTCACTTCTC TTTGCTTCCT
 CATCTGGATT GGAATATTCC TAATACCCCC TCCAGAACTA TTTTCCCTGT TTGTACTAGA CTGTGTATAT
 CATCTGTGTT TGTAATATAGA CATTAATCTG CACTTGTGAT CATGGTTTAA GAAATCATCA AGCCTAGGTC
 5 ATCACCTTTT AGCTTCCTGA GCAATGTGAA ATACAACTTT ATGAGGATCA TCAAATACGA ATTCATCCTG
 AATGACGCCC TCAATCAAAG TATAATTGCA GCCAATGATC AGTACCTCAC GGCTGCTGCA TTACATAATC
 TGGATGAAGC AGGTAACATTA AAATGGCACC AGACATTTCT GTCATCCTCC CCTCCTTTCA TTTACTTATT
 TATTATTTTC AATCTTTCTG CTTGCAAAAA ACATACCTCT TCAGAGTTCT GGGTTGCACA ATTCTTCCAG
 AATAGCTTGA AGCACAGCAC CCCCATAAAA ATCCCAAGCC AGGGCAGAAG GTTCAACTAA ATCTGGAAGT
 10 TCCACAAGAG AGAATGTTTC TATCTTTGAG AGTAAAGGGT TGTGCACAAA GCTAGCTGAT GTACTACCTC
 TTTGGTTCTT TCAGACATTC TTACCCTCAA TTTTAAAACT GAGGAAACTG TCAGACATAT TAAATGATTT
 ACTCAGATTT ACCCAGAAGC CAATGAAGAA CAATCACTCT CCTTTAAAAA GTCTGTTGAT CAAACTCACA
 AGTAACACCA AACCAGGAAG ATCTTTATTA TCTCTGATAA CATATTGTG AGGCAAAACC TCCAATAAGC
 TACAAATATG GCTTAAAGGA TGAAGTTTAG TGTCCAAAAA CTTTTATCAC ACACATCCAA TTTTCATGGC
 15 GGACATGTTT TAGTTTCAAC AGTATACATA TTTTCAAAGG TCCAGAGAGG CAATTTTGCA ATAAACAAGC
 AAGACTTTTT CTGATTGGAT GCACTTCAGC TAACATGCTT TCAACTCTAC ATTTACAAAT TATTTGTGT
 TCTATTTTTC TACTTAATAT TATTTCTGCA ATTTCCCAA TATTGACATC GTGTATGTAT TTGCCATTTT
 TAATATCACT AGACAATTCA ATCAGGTTGC TACGTTGGTC CCTTGGGTTT ACTCTAAATA GCTTGATTGC
 AAATATCTTT GTATATATTA TTGTTTTTTC TCCTATCTTG TAATTTCTTT GAGCACATCC CAAAGAGGAA
 20 TGCCTAGATC AATGCGCACA AATAATTTGA CAGCTCTTAT TAAACATTAT TCTGTAAGTA AAACTGAAC
 TACTTTTCAG TATCACTAGC AACATATGAG TGTATCAGCT TCCTAAACCC TCCTAGTTA GGTCAATTATG
 AACTTATGAT CTAAATAATT ACAGGGTCTT ATCCCACTAA TGAAATTATA AGAGATTCAA CACTTATTCA
 GCCCGAAGG ATTCATTCAA CGTAGAAAAT TCTAAGAACA TTAACCAAGT ATTTACCTGC CTAGTGAGTG
 TGGAAGACAT TGTGAAGGAC ACAAAGATGT ATAGAATTCC ATTCCTGACT TCCAGGTATT TACACCATAG
 25 GTGGGGACCT AACTACACAC ACACACACAC ACACACACAC ACACACACAC ACCATGCACA CACAATCTAC
 ATCAACACTT GATTITATAC AAATACAATG AATTTACTTT CTTTTTGGTT CTCTCTTCA CCAGTGAAAT
 TTGACATGGG TGCTATAAG TCATCAAAGG ATGATGCTAA AATTACCGTG ATTCTAAGAA TCTCAAAAAC
 TCAATTGTAT GTGATGCCC AAGATGAAGA CCAACCAGTG CTGCTGAAGG TCAGTTGTCC TTTGTCTCCA
 ACTTACCTTC ATTTACATCT CATATGTTT TAAATAAGCC CAATAGGCAG ACACCTCTAA CAAGGTGACA
 30 CTGTCTCTT TCCTTCTAC CACAGCCCC ACCTACCCAC CCCACTCCA TTGATTCCAG AGGCGTGCCT
 AGGCAGGATC TATGAGAAAA TATAACAGAG AGTAAGAGGA AAATTACCTT CTTTCTTTT CTTTCCCTG
 CCTGACCTTA TTCACTCCCC ATCCCAGAGC ATCCATTAT TCCATTGATC TTTACTGACA TCTATTATCT
 GACCTACACA ATACTAGACA TTAGGACAAT GTGGCCTGCC TCCAAGAAAC TCAAATAAGC CAACTGAGAT
 35 CAGAGAGGAT TAATCACCTG CCAATGGGCA CAAAGCAACA AGCTGGGAGC CAAGTCCCAA AATGGGGCCT
 GCTGCTTCCA GTTCCTCT CTCTGCATTG ATGTCAGCAT TATCCTTCGT CCCAGTCCGT TCTCCACTAC
 CACTTTCCCC CTCATAACACA CACACACACA ACAGCCTTAG ATGTTTTCTC CACTGATAAG TGTGCTACTC
 AATTGTGAAG TATAAATCC AAGACCTTCT ATTCCCAAGT AGAATTTATG TGCTGCTGCTG TGCTTTTCTA
 CCTGGATCAA GTGATGTCTA CAGAGTAGGG CAGTAGCTTC ATTATGAAC TCATTCAACA AGCATTATTC
 40 ACTGAGAGCC TTGTATTTT CAGGCATAGT GCCAACAGCA GTGTGGACAG TGGTGCATCA AAGCCTCTAG
 TCTCATAGAA CTTAGTCTTC TGGAGGATAT GGAAAACAGA CAACCCAAAC AACCACAAA AGAGCAAGAT
 GCTGCAAAAA AAAAAAAAT GAATAGGGTG CTAAGATAGA GAAAAGTGGG AGAGTGCTAT TTAGACAAAG
 TGGTAAAAAC AAAGCCCCT GTGAGATGAG AGTGCCGAC AGAGGGGGCG GGTTCATGGT GTGGGTTTTT
 GGGTAGGACA TTCAAGGAG GGGGCGGGTC GTGGTTGTGG GTTTTTGGG AGGACATTCA GAGGAGGGGG
 45 CGGGTCGTGG TTGTGGGTTT TTGGGTAGGA CATTGAGAGG AGGGGGCGGG TCGTGGTTGT GGGTTTTTGG
 GTAGGACATT CAGAGGAGGG GCGGGTCGT GGTGTGGGT TTTTGGGACA TTCAGAGGAG TCTGAATGCA
 CCCAGGCCTA CAACITCAAG ATGGTAAAG ACAGCTCCAA GGATCAGAAG AAGCATTCTT GGAAGTGGG
 CATTITGAGA AGGAGGAAAA ATATGCAGAG ACTAGTGCTT GCAGAGCTTG CATTGGATT TCATTGAGG
 TACAATGAAA ACCCATTAAT GGGTTTCA CAGTGAATG GCCTGACCTC ACTTATATT CCTAAAATAG
 AAAACAGATC AGAAGGAAG CAATAGAGAA GCAGAAAGTC CAATGAGGAG GTTTCACAGC AGTCATGGG
 50 GTGGGGTAAG GAAAGAAGT GGAAAGAAAC AGACAGAATT GGGTTATATT TTGGAGATAG AACCAACAGA
 AGGAAGAGGA GAAACAACAT TTA CTGAGAA GGGAAAAAGT AGGAGAGGAA TAGGTTTGGG AAATAAATCC
 TGCTGACATT GGAAACCCCA AGGAAGCCTC AAAAGTATAT TTA CTGCTT TAGATTTAAA AGAATAGGAA
 AGAAGCATCT CAACTTGGAA TTTGAAATCT ATTTTTCAT AAAAGTATTG TTAATTTCTA CTCATACTCA
 CAAGAAAAGT ACATTTCTAAA GAGTATATTG AAAGAGTTTA CTGATATACT TAGGAATTTT GTGTGTATGT
 55 GTGTGTGTGT ATGTGTGTGT GTGTGTTTAA CCTTCAATTG TTGACTTAAA TACTGAGATA AATGTCATCT
 AAATGCTAAA TTGATTTCCC AAAGGTATGA TTTGTTCACT TGGAGATCAA AATGTTTAGG GGGCTTAGAA
 TCACTGTAGT GCTCAGATTT GATGCAAAAT GTCTTAGGCC TATGTTGAAG GCAGGACAGA AACAATGTTT
 CCTCCTACC TGCCATGATA CAGTAAGATA CTAGTGTAC TGACAATCTT CATAACTAAT TTAGATCTCT
 CTCCAATCAA CTAAGGAAAT CAACTCTTAT TAATAGACTG GGCCACACAT CTACTAGGCA TGTAAATAAT
 60 GCTTGCTGAA TGAAATAATG AATGAAGAGC CTATAGCATC ATGTTACAGC CATAGTCTTA AAGTGGTGTT
 TCTCATGAAG GCCAATGCT AAGGGATTGA GCTTCAGTCC TTTTCTAAC ATCTTGTCT CTAACAGAAT
 TCTCTCTTT TCTCATAGG AGATGCCTGA GATACCCAAA ACCATCACAG GTAGTGAGAC CAACCTCCTC

00400 " 6 9 5 4 6 0

[illegible]

5 TCATTTTAGG CAGAGCTCAT CTGGCATTGA TCTGGTTCAT CCATGAGATT GGCTAGGGTA ACAGCACCTG
 GTCTTGCGAG GTTGTTGTGAG CTTATCTCCA GGGTTGCCCC AACTCCGTCA GGAGCCTGAA CCCTGCATAC
 CGTATGTTCT CTGCCTCAGC CAAGAAAGGT CAATTTTCTC CTCAGAGGCT CCTGCAATTG ACAGAGAGCT
 CCCGAGGCAG AGAA/CAGCAC CCAAGGTAGA GACCCACACC CTCGAATACAG ACAGGGAGGG CTATTGGCCC
 10 TTCATTGTAC CCATTTATCC ATCTGTAAGT GGGAAAGATT CTAACCTTAA GTACAAAGAA GTGAATGAAG
 AAAAGTATGT GCA/TGTATAA ATCTGTGTGT CTTCCACTTT GTCCACATA TACTAAATTT AAACATTTCTT
 CTAACGTGGG AAA/TCCAGT ATTTTAATGT GGACATCAAC TGCACAACGA TTGTCAGGAA AACAATGCAT
 ATTTGCATGG TGATACATTT GCAAAATGTG TCATAGTTTG CTAACCTCTG CCCTTCCATG AACCAGAGAA
 15 TTATCTCAGT TTATTAGTCC CCTCCCCTAA GAAGCTTCCA CCAATACTCT TTTCCCCTTT CCTTTAACTT
 GATTGTGAAA TCACGTATTC AACAGAGAAA TTTCTCAGCC TCCTACTTCT GCTTTTGAAA GCTATAAAAA
 CAGCGAGGGA GAA/CTGGCA GATACCAAACT CTCTTCGAGG CACAAGGCAC AACAGGCTGC TCTGGGATTC
 TCTTCAGCCA ATCTTCATTG CTCAAGTATG ACTTTAAGTCT TCCTTACAAC TAGGTGCTAA GGGGATCTCT
 CTGTCTCTCT GCTCTTTTGT GTGTATGCAT ATTCTCTCTC TCTCTCTCT TCTTTCTCTG TCTCTCTCT
 CCTTCTCTCT TGCCCTCTCT CTCAGCTTTT TGCAAAAATG CCAGGTGTAA TATAATGCTT ATGACTCGGG
 20 AAATATTCTG GGA/TGGATA CTGCTTATCT AACAGCTGAC ACCCTAAAGG TTAGTGTCAA AGCCTCTGCT
 CCAGCTCTCC TAGCCAATAC ATTGCTAGTT GGGGTTTGGT TTAGCAAAATG CTTTCTCTA GACCCAAAGG
 ACTTCTCTTT CACA/CATTCA TTCATTTACT CAGAGATCAT TTCTTTGCAT GACTGCCATG CACTGGATGC
 TGAGAGAAAT CACA/CATGAA CGTAGCCGTC ATGGGGAAGT CACTCATTTT CTCCTTTTAA CACAGGTGTC
 TGAAGCAGCC ATGC CAGAAG TACCTGAGCT CGCCAGTGAA ATGATGGCTT ATTACAGGTC AGTGGAGACG
 25 CTGAGACCAG TAACATGAGC AGGTCTCCTC TTTCAAGAGT AGAGTGTTAT CTGTGCTGG ACTCAGGATT
 TTTCCCCTAA ATTGCTCTCT TCAGTGGCAA ACAGGGTGCC AAGTAAATCT GATTAAAGA CTACTTTCCC
 ATTACAAGTC CCTC/CAGCTT TGGGACCTGG AGGCTATCCA GATGTGTTGT TGCAAGGGCT TCCTGCAGAG
 GCAAAATGGGG AGA/AAGATT CCAAGCCCAC AATACAAGGA ATCCCTTTGC AAAGTGTTGGC TTGGAGGGAG
 AGGGAGAGCT CAG/TTTTAG CTGACTCTGC TGGGCTAGAG GTTAGGCCTC AAGATCCAAC AGGGAGCACC
 30 AGGGTGCCCA CCTC/CAGGC CTAGAATCTG CCTTCTGGAC TGTTCTGCGC ATATCACTGT GAAACTTGCC
 AGGTGTTTCA GGCAGCTTTG AGAGGCAGGC TGTTTGCAGT TTCTTATGAA CAGTCAAGTC TTGTACACAG
 GGAAGGAAAA ATA/AACCTGT TTAGAAGACA TAATTGAGAC ATGTCCCTGT TTTTATTACA GTGGCAATGA
 GGATGACTTG TTCTTTGAAG CTGATGGCCC TAAACAGATG AAGGTAAGAC TATGGGTTTA ACTCCAACC
 CAAGGAAGGG CTCTAACACA GGGAAAGCTC AAAGAAGGGA GTTCTGGGCC ACTTTGATGC CATGGTATTT
 35 TGTTTTAGAA AGACTTTAAC CTCTTCCAGT GAGACACAGG CTGCACCACT TGCTGACCTG GCCACTTGGT
 CATCATATCA CCACAGTCAC TCACTAACGT TGGTGGTGGT GGCCACACTT GGTGGTGACA GGGGAGGAGT
 AGTGATAATG TTCCCATTTT ATAGTAGGAA GACAACCAAG TCTTCAACAT AAATTGATT ATCCTTTTAA
 GAGATGGATT CAGCCTATGC CAATCACTTG AGTTAAACTC TGAAACCAAG AGATGATCTT GAGAACTAAC
 ATATGTCTAC CCTTTTGGAG TAGAATAGTT TTTTGCTACC TGGGGTGAAG CTTATAACAA CAAGACATAG
 40 ATGATATAAA CAAAAGATG AATTGAGACT TGAACAGAAA CCATTCACCT GCTGTTTGAC CTTGACAAGT
 CATTTTACCC GCTT/GGACC TCATCTGAAA AATAAAGGGC TGAGCTGGAT GATCTCTGAG ATTCCAGCAT
 CCTGCAACCT CCAGTTCTGA AATATTTTCA GTTGTAGCTA AGGGCATTTG GGCAGCAAAT GGTCATTTTT
 CAGACTCATC CTTACAAAGA GCCATGTTAT ATTCTGCTG TCCCTTCTGT TTTATATGAT GCTCAGTAGC
 CTTCTAGGT GCCCAGCCAT CAGCCTAGCT AGGTCAAGTTG TGCAGGTTGG AGGCAGCCAC TTTTCTCTGG
 45 CTTTATTTTA TTCCA/GTTG TGATAGCCTC CCTAGCCTC ATAATCCAGT CCTCAATCTT GTTAAAAACA
 TATTTCTTTA GAAGTTTAA GACTGGCATA ACTTCTTGGC TGCAGCTGTG GGAGGAGCCC ATTGGCTTGT
 CTGCTGGCC TTTGCTCCCCT ATTGCTCTT CCAGCAGCTT GGCTCTGCTC CAGGCAGGAA ATTCTCTCT
 GCTCAACTTT CTTTGTGCA CTTACAGGTT TCTTTAAGT TCTTTCAAGC CTTTGAACCA TTATCAGCCT
 TAAGGCAACC TCAGTGAAGC CTTAATACGG AGCTTCTCTG AATAAGAGGA AAGTGGTAAC ATTTACAAAA
 50 AAGTACTCTC ACAGJATTTG CAGAATGCCT ATGAGACAGT GTTATGAAAA AGGAAAAAAA AGAACAGTGT
 AGAAAAATG AATACTTGCT GAGTGAGCAT AGGTGAATGG AAAATGTTAT GGTCACTGCT ATGAAAAAGC
 AAATCATAGT GTGACAGCAT TAGGGATACA AAAAGATATA GAGAAGGTAT ACATGTATGG TGTAGGTGGG
 GCATGTACAA AAAGATGACA AGTAGAATCG GGATTATTC TAAAGAATAG CCTGTAAGGT GTCCAGAAGC
 CACATTCTAG TCTTJAGTCT GCCTCTACCT GCTGTGTGCC CTTGAGTACA CCCTTAACCT CCTTGAGCTT
 55 CAGAGAGGGA TAA/CTTTTT ATTTTATTTT GTGCAAGTGGT ACAATCTTGG CTTACTGCTC CTCCACCTC
 ACAGAGTCTC ACTCTGTGTC CCAGGCTGGA TCCTGAATAG CTAGGATTAC AGGTGCACCC CACCACACCC
 CTGAGTTCAA GCGATTCTCC TTCCTCAGTC TCCTGAATAG TGTGGCCAG GCTGGTTTTG AAGTCTGAC
 AGCTAATTTT TGTA/TTTTTA GTAGAGAAGG GGTTCGCCA TGTGGCCAG GAGCCACCAC GCCTGGCCCA
 CTAAATGATT CATC/CACCTC GGCTTCCCAA AGTGCTGGGA TTACAGGCAT CTCTGAGCTT TCTACTCTCT
 60 GAGAGGGATG ATCTTTAGAA GCTCGGGATT CTTTCAAGCC CTTTCTCCT CTCTCTCTCC GCAGTGCTCC
 GATGTCAAAG CATGGTTCCT GGCAGGACCA CCTCACCAGG CTCCCTCCCT CGCTCTCTCC CACTACAGCA
 TTCCAGGAGC TGGACCTCTG CCCTCTGGAT GGCAGCATCC AAGATGCTGG TCCCTGCCC TTCCCTGCCC
 AGGGCTTCAG GCAGGCCGCT TCAGTTGTTG CTTCTTTCCC TTCTCTTTG AAGAAGGTAG TTAGCCAAGA
 ACAGACCTTC CAGGAGAATG ACCTGAGCAC TTTCTTTCCC TTTCTTTTG CCAACTCAAT TCCCCAGAG
 GCAGGCAGTA GATCTCCACT TGTGTCTCTT TGGAAGTCAT CAAGCCCCAG CCAACTCAAT TCCCCAGAG
 CCAAAGCCCT TTAAAGGTAG AAGGCCAGC GGGGAGACAA AACAAAGAAG GCTGGAAACC AAAGCAATCA
 TCTCTTAGT GGAAACTATT CTTAAAGAAG ATCTTGATGG CTAAGTACAT TTGCAACTCC CTCACTCTTT

004040 " 52943360

CTCAGGGGCC TTTCAC TTAC ATTGTCACCA GAGGTTCGTA ACCTCCCTGT GGGCTAGTGT TATGACCATC
 ACCATTTTAC CTAA GTAGCT CTGTTGCTCG GCCACAGTGA GCAGTAATAG ACCTGAAGCT GGAACCCATG
 TCTAATAGTG TCAC GTCCAG TGTTCTTAGC CACCCCACTC CCAGCTTCAT CCCTACTGGT GTTGT CATCA
 GACTTTGACC GTATATGCTC AGGTGTCCTC CAAGAAATCA AATTTTGCCA CCTCGCCTCA CGAGGCCTGC
 5 CCTTCTGATT TTATACCTAA ACAACATGTG CTCCACATTT CAGAACCTAT CTCTCTCGAC ACATGGGATA
 ACGAGGCTTA TGTGCACGAT GCACCTGTAC GATCACTGAA CTGCACGCTC CGGGACTCAC AGCAAAAAAG
 CTTGGTGATG TCTG GTCCAT ATGAACTGAA AGCTCTCCAC CTCCAGGGAC AGGATATGGA GCAACAAGGT
 AAATGGA AAC ATCTTGTTTT CCCTGCCTGG CCTCCTGGCA GCTTGCTAAT TCTCCATGTT TTAACAAAG
 TAGAAAGTTA ATTTAAGGCA AATGATCAAC ACAAGTGAAA AAAAATATTA AAAAGGAATA TACAACTTT
 10 GGTCCTAGAA ATGC CACATT TGATTGCACT GGCCAGTGCA TTTGTAAACA GGAGTGTGAC CCTGAGAAAT
 TAGACGGCTC AAGCACTCCC AGGACCATGT CCACCCAAGT CTCTTGGGCA TAGTGCAGTG TCAATCTTTC
 CACAATATGG GGTCAATTGA TGGACATGGC CTAACCTGCCT GTGGGTTCTC TCTTCTGTG GTTGAGGCTG
 AAACAAGAGT GCTCGAGCGA TAATGTGTCC ATCCCTCTCC CCAGTCTTCC CCCCTTGCC CAACATCCGT
 CCCACCCAAT GCCAGGTGGT TCCTTG TAGG GAAATTTTAC CGCCAGCAG GAACTTATAT CTCTCCGCTG
 15 TAACGGGCAA AAGTTTCAAG TGCGGTGAAC CCATCATTAG CTGTGGTGAT CTGCCTGGCA TCGTGCACACA
 GTAGCCAAAG CCTCTGCACA GGAGTGTGGG CAACTAAGGC TGCTGACTTT GAAGGACAGC CTCACTCAGG
 GGGAAGCTAT TTGCTCTCAG CCAGGCCAAG AAAATCCTGT TTCTTTGGAA TCGGGTAGTA AGAGTGATCC
 CAGGGCCTCC AATTGACACT GCTGTGACTG AGGAAGATCA AAATGAGTGT CTCTCTTTGG AGCCACTTTC
 CCAGCTCAGC CTCTCTCTC CCAGTTTCTT CCCATGGGCT ACTCTCTGTT CCTGAAACAG TTCTGGTGCC
 20 TGATTTCTGG CAGAAGTACA GCTTCACCTC TTCTCTTCC TTCCACATTG ATCAAGTTGT TCCGCTCCTG
 TGGATGGGCA CATTGCCAGC CAGTGACACA ATGGCTTCTT TCCTTCTTTC CTTCAGCATT TAAATGTAG
 ACCCTCTTTC ATTCTCCGTT CCTACTGCTA TGAGGCTCTG AGAAACCCTC AGGCCTTTGA GGGGAAACCC
 TAAATCAACA AAATGACCCT GCTATTGTCT GTGAGAAGTC AAGTTATCCT GTGTCTTAGG CCAAGGAACC
 TCACTGTGGG TTCCCTACAGA GGTACCAAT TACATGTATC CTACTCTCGG GGCTAGGGGT TGGGGTGACC
 25 CTGCATGCTG TGTCCTAAC CACAAGACCC CCTTCTTCT TCACTGCTGT TCTCCATGTC CTTGTACAA
 GGAGAAGAAA GTAA TGACAA AATACCTGTG GCCTTGGGCC TCAAGGAAAA GAATCTGTAC CTGTCTGCG
 TGTGAAAGA TGATAAGCCC ACTCTACAGC TGGAGGTAAAG TGAATGCTAT GGAATGAAGC CCTTCTCAGC
 CTCTGCTAC CACTATTCC CAGACAATTC ACCTTCTCCC CGCCCCATC CCTAGGAAAA GCTGGGAACA
 GGTCTATTTG ACAA GTTTG CATTAATGTA AATAAATTTA ACATAATTTT TAACTGCGTG CAACCTTCAA
 30 TCCTGCTGCA GAAAAATTA TCAATTTGCC GATGTTATTA TGCTCTACCA TAGTTACAAC CCAACAGAT
 TATATATTGT TAGGGCTGCT CTCATTTGAT AGACACCTTG GGAAATAGAT GACTTAAAGG GTCCCATTAT
 CACGTCCACT CCACCTCCAA AATCACCACC ACTATCACCT CCAGCTTCT CAGCAAAAGC TTCATTCCA
 AGTTGATGTC ATTCTAGGAC CATAAGGAAA AATACAATAA AAAGCCCTG GAAACTAGGT ACTTCAAGAA
 GCTCTAGCTT AATTTCACC CCCCCAAAAA AAAAAAATTC TCACCTACAT TATGCTCCTC AGCATTTGGC
 35 ACTAAGTTTT AGAAAGAAAG CAGGGCTCTT TTAATAATCA CACAGAAAGT TGGGGGGCCA GTTACAACCT
 AGGAGTCTGG CTCTGATCA TGTGACCTGC TCGTGAGTTT CCTTCTGGC CAACCCAAAG AACATCTTTC
 CCATAGGCAT CTTTGTCCCT TGCCCCACAA AAATCTTCT TTCTCTTTCG CTGCAGAGTG TAGATCCCAA
 AAATTACCA AAGAAGAAGA TGGAAAAGCG ATTTGTCTTC AACAAGATAG AAATCAATAA CAAGCTGGAA
 40 TTTGAGTCTG CCCAGTTCCC CAACTGGTAC ATCAGCACCT GCAATTGTG TCTTCTAAA GAGAGCTGTA
 GAGGGACCAA AGGCGGCCAG GATATAACTG ACTTACCATT ACTTACCATT GCTGGCAGAA AGGGAACAGA AAGGTTTTTG
 CCCAGAGAGT CCTGTGCTGA ATGTGGACTC AATCCCTAGG GCTGGCAGAA AGGGAACAGA AAGGTTTTTG
 AGTACGGCTA TAGCTGGAC TTCTCTGTG TCTACACCAA TGCCCACTG CCTGCCTTAG GGTAGTGCTA
 AGAGGATCTC CTGTCTATCA GCCAGGACAG TCAGCTCTCT CCTTTCAGGG CCAATCCCCA GCCCTTTTGT
 TGAGCCAGGC CTCTCTCACC TCTCCTACTC ACTTAAAGCG CGCTGACAG AAACCACGGC CATATTGGT
 45 TCTAAGAAAC CCTCTGTCAT TCGCTCCAC ATTCTGATGA GCAACCGCTT CCCTATTTAT TTATTTATTT
 GTTGTGTTGT TTTGATTCT TGGTCTAATT TATTCAAAGG GGGCAAGAAG TAGCAGTGTC TGTAAGAGAG
 CCTAGTTTTT AATAGCTATG GAATCAATTC AATTTGGACT GGTGTGCTCT CTTTAAATCA AGTCTTTTAA
 TTAAGACTGA AAATATATAA GCTCAGATTA TTAAATGGG AATATTTATA AATGAGCAAA TATCATACTG
 50 TTCAATGGTT CTGAATAAAA CTTCACTGAA GAAAAAATAA AAAGGTCTC TCCTGATCAT TGACTGTCTG
 GATTGACACT GACAGTAAGC AAACAGGCTG TGAGAGTTCT TGGGACTAAG CCCACTCCTC ATTGCTGAGT
 GCTGCAAGTA CCTAGAAATA TCCTTGGCCA CCGAAGACTA TCCTCTCAC CCATCCCCTT TATTTCTGTTG
 TTCAACAGAA GGATATTGAG TGCACATCTG GAACAGGATC AGCTGAAGCA CTGCAGGGAG TCAGGACTGG
 TAGTAACAGC TACCATGATT TATCTATCAA TGCACCAAAC ATCTGTTGAG CAAGCGCTAT GTACTAGGAG
 CTGGGAGTAC AGAGATGAGA ACAGTCACAA GTCCCTCCTC AGATAGGAGA GGCAGCTAGT TATAAGCAGA
 55 ACAAGGTAAC ATGACAAAGTA GAGTAAGATA GAAGAACGAA GAGGAGTAGC CAGGAAGGAG GGAGGAGAAC
 GACATAAGAA TCAAGCCTAA AGGGATAAAC AGAAGATTTT CACACATGGG CTGGGCCAAT TGGGTGTCGG
 TTACGCCTGT AATCCAGCA CTTTGGGTGG CAGGGGCAGA AAGATCGCTT GAGCCAGGA GTTCAAGACC
 AGCTGGGCA ACATAGTGAG ACTCCCATCT CTACAAAAAA GACACTGGAG GATTGCTTGA TCGGAGGAAA
 ATGCTGGCAT GCACCTGTAG TCCTAGCTAC TTGGGAAGCT TCGGAGGAAA AGGCAAAAAA
 60 TCAAGACTGC AGTGAGCTTA TCCGTTGACC TGCAGGTGCA CACAAACCTT TCGAGGCAAA CAGAAGTACC
 GGCTGCTCTG GGATCTCTT CAGCCAATCT TCAATGCTCA AGTGTCTGAA GCAGCCATGG AGCTGATGGC
 TAAGCTCGCC AGTGAAATGA TGGCTTATTA CAGTGGCAAT GAGGATGACT TGTTCTTTGA

004040 " 62964560



	CCTAAACAGA	TGAAJTGCTC	CTTCCAGGAC	CTGGACCTCT	GCCCTCTGGA	TGGCGGCATC	CAGCTACGAA
	TCTCCGACCA	CCACACACAGC	AAGGGCTTCA	GGCAGGCCGC	GTCAGTTGTT	GTGGCCATGG	ACAAGCTGAG
	GAAGATGCTG	GTTCJCTGCC	CACAGACCTT	CCAGGAGAAT	GACCTGAGCA	CCTTCTTTCC	CTTCATCTTT
5	GAAGAAGAAC	CTATCTTCTT	CGACACATGG	GATAACGAGG	CTTATGTGCA	CGATGCACCT	GTACGATCAC
	TGAACTGCAC	GCTCJGGGAC	TCACAGCAAA	AAAGCTTGGT	GATGTCTGGT	CCATATGAAC	TGAAAGCTCT
	CCACCTCCAG	GGACAGGATA	TGGAGCAACA	AGTGGTGTTC	TCCATGTCCCT	TGTACAAAGG	ATGAAGAAGT
	AATGACAAAA	TACCTGTGGC	CTTGGGCCTC	AAGAAAAGA	ATCTGTACCT	GTCCTGCGTG	TGAAAGATG
	ATAAGCCAC	TCTACAGCTG	GAGAGTGTAG	ATCCCAAAAA	TTACCCAAAG	AAGAAGATGG	AAAAGCGATT
10	TGTCTTCAAC	AAGAATAGAAA	TCAATAACAA	GCTGGAATTT	GAGTCTGCCC	AGTTCCCCAA	CTGGTACATC
	AGCACCTCTC	AAGCAGAAAA	CATGCCCGTC	TTCTGTGGAG	GGACCAAAGG	CGGCCAGGAT	ATAACTGACT
	TCACCATGCA	ATTTGTGTCT	TCCTAAAGAG	AGCTGTACCC	AGAGAGTCCT	GTGCTGAATG	TGGACTCAAT
	CCCTAGGGCT	GGCAJAAAGG	GAACAGAAAG	GTTTTTGAGT	ACGGCTATAG	CCTGGACTTT	CCTGTTGTCT
	ACACCAATGC	CCAACTGCCT	GCCTTAGGTT	AGTGTCTAAG	GGATCTCTGT	TCCATCAGCC	AGGCAGCTCA
15	GCTCTCTCCT	TTCAAGGCCA	ATCCCCAGCC	TTTTGTTGAG	CCAGGCCTCT	CTCACCTCTC	CTACTCACTT
	AAAGCCCGCC	TGACAGAAAC	CAGGCCACAT	TTTGGTTCTA	AGAAACCCTC	CTCTGTCATT	CGCTCCACAC
	TTCTGATGAG	CAACCGCTTC	CCTATTTATT	TATTTATTTG	TTTGTTTGTT	TTGATTCAAT	GGTCTAATTT
	ATTCAAAGGG	GGCAAGAAGT	AGCAGTGTCT	GTAAAAGAGC	CTAGTTTTAA	ATAGCTATGG	AATCAATTCA
	ATTTGGACTG	GTGTJCTCTC	TTTAAATCAA	GTCCTTTAAT	TAAGACTGAA	AATATATAAG	CTCAGATTAT
20	TTAAATGGGA	ATATTTATAA	ATGAGCAAAT	ATCATACTGT	TCAATGGTTC	TCAAAATAAC	TTCACT
	CTGGCAGGAG	TAGCAGCTGC	CCCTTGGCGC	GACTGTGCGA	GCCGCGAAT	AGAGAAACAC	AGACACGCCT
	CATAGAGCAA	CGGCCTCTCT	CGGAGCTGTG	AGCCCGCCAA	GCTCGAGCTG	AGCTTTCGCT	TGCCGTCCAC
	CACTGCCAC	ACTGTCGTTT	GCTGCCATCG	CAGACCTGCT	GCTGACTTCC	ATCCCTCTGG	ATCCGGCAAG
	GGCCTGCGAT	TTTGACAATG	TCAAGATTTA	CCGTATATCC	CTGTTTGTTT	GGATACACCA	GTGACGTCCA
25	CTTCTAGAAG	ACAAAGTTAT	ATTACTTAAA	CAACCAAAGA	TATGAAACTA	TCCATGAAGA	ACAAATTATT
	CAATACACAG	CAGTCTTTTG	TAACCATGCC	CAATGTGATT	GTACCAGATA	TTGAAAAGGA	AATACGAAGG
	ATGGAANAAT	GAGCATGACAG	CTCCTTTTCT	GAGGATGATG	ACAGTGCCTC	TACATCTGAA	GAATCAGAGA
	ATGAAAACCC	TCACTJCAAGG	GGTTCTCTTA	GTTATAAGTC	ACTCAGAAAG	GGAGGACCAT	CACAGAGGGA
	GCAGTACCTG	CCCTGTGCCA	TTGCCATTTT	TAAATGTGAAC	AACAGCGACA	ATAAGGACCA	GGAAACCAGAA
30	GAAAAAAGA	AAAAAGAAAA	AGAAAAGAAG	AGCAAGTCAG	ATGATAAAAA	CGAAAATAAA	AACGACCCAA
	AGAAGAAGAT	GGAAAAGCGA	ATGGCCAAAG	TTCCAGACAT	GTTTGAAGAC	CTGAAGAACT	GTTACAGTGA
	AAATGAAGAA	GACAGTTCCT	CCATTGATCA	TCTGTCTCTG	AATCAGAAAT	CCTTCTATCA	TGTAAGCTAT
	GGCCCACTCC	ATGAAGGCTG	CATGGATCAA	TCTGTGTCTC	TGAGTATCTC	TGAAACCTCT	AAAACATCCA
	AGCTTACCTT	CAAGJAGAGC	ATGGTGGTAG	TAGCAACCAA	CGGGAAGGTT	CTGAAGAAGA	GACGGTTGAG
35	TTTAAGCCAA	TCCAATCACTG	ATGATGACCT	GGAGGCCATC	GCCAATGACT	CAGAGGAAGA	AAICATCAAG
	CCTAGGTCAG	CACCTTTTAG	CTTCTGTAGC	AATGTGAAAT	ACAACTTTAT	GAGGATCATC	AAATACGAAT
	TCATCTTGAA	TGACJCCCTC	AATCAAAGTA	TAATTCGAGC	CAATGATCAG	TACCTCACGG	CTGCTGCATT
	ACATAATCTG	GATGAAGCAG	TGAAATTTGA	CATGGGTGCT	TATAAGTCAT	CAAAGGATGA	TGCTAAAATT
	ACCGTGATTG	TAAGAATCTC	AAAAACTCAA	TTGTATGTGA	CTGCCCAAGA	TGAAGACCAA	CCAGTGCTGC
40	TGAAGGAGAT	GCCTGAGATA	CCCCAAACCA	TCACAGGTAG	TGAGACCAAC	CTCCTCTTCT	TCTGGGAAAC
	TCACGGCAGT	AAGAATCTATT	TCACATCAGT	TGCCCATCCA	AACTTGTTTA	TTGCCACAAA	GCAAGACTAC
	TGGGTGTGCT	TGGCAGGGGG	GCCACCCTCT	ATCACTGACT	TTCAGATACT	GGAAAACCAA	GCGTAGGTCT
	GGAGTCTCAC	TTGTCTCACT	TGTGCAGTGT	TGACAGTTCA	TATGTACCAT	GTACATGAAG	AAGCTAAATC
	CTTTACTGTT	AGTCAATTTG	TGAGCATGTA	CTGAGCCTTG	TAATTCTAAA	TGAATGTTTA	CACTCTTTGT
45	AAGAGTGGAA	CCAACACTAA	CATATAATGT	TGTTATTTAA	AGAACACCCT	ATATTTTGCA	TAGTACCAAT
	CATTTTAATT	ATTATCTCTC	ATAACAATTT	TAGGAGGACC	AGAGCTACTG	ACTATGGCTA	CCAAAAAGAC
	TCTACCCATA	TTACAGATGG	GCAAATTAAG	GCATAAGAAA	ACTAAGAAAT	ATGCACAATA	CGAGTTGAAA
	CAAGAAGCCA	CAGACCTAGG	ATTTCATGAT	TTCAATTTCAA	CTGTTTGCCCT	TCTGCTTTTA	AGTTGTCTGAT
	GAACCTCTTA	TCAAATGACA	TAAGTTTCTG	GGACCTCAGT	TTTATCATTT	TCAAAATGGA	GGGAATAATA
50	CCTAAGCCTT	CCTGJCGCAA	CAGTTTTTTA	TGCTAATCAG	GGAGGTCATT	TTGGTAAAT	ACTTCTCGAA
	GCCGAGCCTC	AAGATGAAGG	CAAAGCACGA	AATGTTATTT	TTTAATTATT	ATTTATATAT	GTATTTATAA
	ATATATTTAA	GATAATTATA	ATATACTATA	TTTATGGGAA	CCCCTTCATC	CTCTGAGTGT	GACCAGGCAT
	CCTCCACAAT	AGCAJGACAGT	GTTTTCTGGG	ATAAGTAAAGT	TTGATTCAT	TAATACAGGG	CATTTT

[illegible]

[illegible]

ACCGACGGCT GGCCGGCCCC GGGGGCGGGC TGGGGGTGTG CGAGGCGCGG GCGGCCGGGG AGCGCTGATT
 GGCTGGCGGG TGCCGGGGTG GCGGGGGCGG CCGGGGTGGG CTGCGGGGAG CGAGCTCCGG ACCCCCGCGC
 CCCCAGCGCC CCCCAGCGCC CCCCAGCGCC GCTCTCCCGC TCCCAGCGCC CGGCCGGGCC ATGGCTCTGC
 CCCTCTCCGC CCAGGTGCGC TCGCGCCCGG GCTTCTCCCG CCCACCCGGC GGGCTCCTGG GAGGCGTCT
 5 AAGGGGTCTC CCGTGGGAGA GGTCCGTGTC TCCCGGACTC CGTCTGCGC TTTTGGCTCC TTCCCCTGCT
 CCCAGCCAGC TCGCGCTCCC GCGGCCCGGG GAGGGGGCAG GTTCTGGCCT GTGCCTCCCC CACCATCCGC
 GCCCCGGGGC CCACATTCCG GCGTCCGGGG GCGGACGGGA GACGCCCCGG CCGCGTCTGC TCCGACGGGC
 GGGGCAGCCA GAGCCAGGGA GGGAGAGGGA AGCCCGCCTG GCCCTGCGAC CTGCCCCGCG GCGTTCACC
 CTGGGACTTA AGACCTCCAG CTCCATCCTC CCTAAGGCCG GGAGTCCAGG CCCCAGACCC TCCTCCCCGA
 10 GACCCAGGAG TCCAGACCCC AGGCCTTCTC CCCTCAGACC TAGGAGTCCA GGCCCCCAGC CTCTCTCTCC
 TCAGACCCAG GAGCAGTCCA GACCCAGTT CCTCTCCCT CAGACCCGGG AGTCCAGCCC AGGCCCTCCT
 CTCTCAGACC CGGAGTCCAG CCTGAGCTCT CTGCCTTATC CTGCCCCAG GTGTTTGCCG CTTGGTCTG
 GTCGTGCTGA GCCTGTGGCC AGATACAGCT GTCGCCCTG GGCACACCACC TGGCCCCCT CGAGTTTCCC
 CAGACCCTCG GGCCGAGCTG GACAGACCCG TGCTCTGAC CCGCTCTCTC CTGGCGGACA CGCGGCAGCT
 15 GGCTGCACAG CTGGTAGGAG AGACTGGGCT GGGGCCAGCA CAGGAGTGAG AGGCAGAGAG GAACGGAGAG
 GAGTCTGCGG GCACCCACTT GGAGGGGTTT TGGGCTCTCA GGTGGCAGAG TGAGGGAGGG GAAGAGTTGG
 GGGCTGCGG TGCCGGATGG AGGGAGCCCC GAGGCTGGGC AGGGGCCACC TCACAGCTTT TTTCCCTGCC
 AGAGGGACAA ATTCACAGCT GACGGGGACC ACAACCTGGA TTCCCTGCCC ACCCTGGCCA TGAGTGCAGG
 GGCACCTGGA GCTCTACAGG TAAGGCAAG GGAGTGGGT GGGGACAAGG TGGGAGGCAG GCAGTGAAGG
 20 GGGCGGGGAG GATGAGGGGC ACTGGTCGGG TGTCTCTGA TGTCCCGCT GTATCCCCAG CTCCAGGTG
 TGCTGACAAG GCTGCGAGCG GACCTACTGT CCTACCTGCG GCACGTGCAG TGGCTGCGCC GGGCAGGTGG
 CTCTTCCCTG AAGACCTGG AGCCCGAGCT GGGCACCTG CAGGCCCGAC TGGACCGGCT GCTGCGCCGG
 CTGCAGCTCC TGGTATGTCC TGGCCCCAAG ACCTGACACC CCAGACCCCC ACCCTGGCC CCAAATCCT
 GTGGCCTGAG TCCTTGAAGC CTGAGACCCC AGACCCGAGT GCAACAGCCC CGCTCTGAGA CCCTGACACC
 25 CTAACAGCCC GCTCTGAGAC CCTGACACCG TAACAGCCCC GCTCTGAGAC CTTGACCTG AGGCCCTA ACAGTCTGC
 TCTGAGACCC TGACCCCTGA GTCCCAAGAT CCTGTGGCC TGAGACCTG AGGCCCTA CCCCCAAATC
 CTGCCAGAA ACTTCAAATT CTCACCCAAG ACCCTGAGAC TCCATCATCC ATGACCTCA AGTCCCCAGA
 TCCCAGCCCC TAAGACCCAA GACCCCATCC TGAAGCCCA AGCCTTGAGA ATTCAAATC TCACCTAAG
 ACTTGAGAC CCTGGCCCCA TGACATTGAA AACCATGGAC CTGGCCAGGC GTGGTGGCTC ACGCTGTAA
 30 TCCCAGCACT TTGGGAGGCC GAGGCAAGTG GATCACCTGA GGTGCGGAGT TCAAGACCAG CCAGACCAAC
 ATGGTGAAAC CCTGTCTCTA CTAATAATAC AAAATTAGCC AGGCGTGGTG GTGCATGCCT GTAATCCCAG
 CTACTTGGGA GGCTGAGGCA GGAGAATCGC TTGAACCTGG GAGGCGGAGG TTGCAGTGAG CCGAGATCGC
 ACCATTACAC TCCAGCTGG GCAACAAGAG CAAAACCTCC TCTCTCTCA AAAAAAAAAA AAAAAAAAAA
 35 AAGAAGGAAA AGAACAACCAT GGACCTCCAG ACCCTGAGAC CCCAGGCCCC AGCCTGAGA TCCTGACATC
 TTAAGATCC TAAGCCCTAA GATACAAGAC CTTGACCCAA AGCCACCTT GGGACCCCTG CTGTACAAAC
 CCAAGACCTC CAGACCTAG ACCCCGAGCC CTGAGGCCCT ATGTCTACT CCCAACATCG AAAACCTGA
 CACCTCAGAT CCTGAGCCTG CGCCTGTACG ACTCCAAGAC CCTCACTTCC AAAGCCAGGC CCAAAGCCCT
 GAGACCAGAA GACTTCAAAC CCTGGTCTT GGGCCTAACT CCAAAGACCC TGGATCTCA ATTCCAACCT
 CTAGCTCTGA GACTCCAGCC CTCACCCATG AGTTCCTGAA CTTGAACCCA GAGACCCCAT CTCTAAGACT
 40 TCAGCCTTGA GATCCAGGGC CTGACCCTAG ACTCGAGCCC ACAGACCTCA GATACTGTCT GTAAACCCCC
 AGCTCTGGTG GGGAGCAGTG GCTCACTCCT GTAATCCCAA GGCAGGGGAG GCCAAGGCAG AAGGACCTCT
 TGAGGCCATG AGTTGAGAC AGCCTGGGCA GCATCAAGAG ACTCTGTTT TTAATTATTA TTATTATTAT
 TATTTTTTGG AGACAGAGT TCGCGCTCTG TCGCCAGGCG TAGAGTGCAA TGGTGCCATT TCGGCTGTCT
 GGAACCTCCG CCTCTGGGC TCAAGCGATT CTCCTGCCTC AGCCTCTGA GTAGCTGGGA CTTCAGGTGC
 45 AACTGCCCAC ACCCGGATAA TTTTTTTGTA TTTTAGTAGA CACAGGGTTT CACCGTGTG CCCAGGCTGG
 TCACAAATC CTGAGCTCAG GCCATCCGCC CGCCTCGGCC TCCCAAAGCG CTGGGATAAC AGGCGTGACG
 CCGCGCCTGG CTTCITTAAT GTTCTAACAG CAGCGACAAC AACAAAAACC CAGCTCTGAG ATCCAGCCC
 CGGCGACTCT AACAGTCCCA GGCCCGATCC CTCACCTAGA ACCGAGATGC CAGCCCTGAC TCCACAGACT
 TCACCCCAA CCCCACACT CAGCTCTGGA AGCCCGTCTC GACTCCAGCC TCCATTTTCG GAACCCACA
 50 GCCTGAAGAG CTCCGGCCT AAACACTTCA CCCCACGCGC CACAGTCCCC CTGTGAATAT GCAGCCCCGA
 TTCAGCTGCA GCTCCACAGC ACCCTGCCCC TGACACCCCG CTGCACCCCG TACCTGTGAC TCACCTCTCT
 CCTCTCCCA CAGATGTCCC GCCTGGCCCT GCCCCAGCCA CCCCAGGACC CGCCGGCGCC CCCGCTGGCG
 CCCCCTCCT CAGCTGGGG GGGCATCAGG GCCGCCACG CCATCCTGGG GGGGCTGCAC CTGACACTTG
 ACTGGGCCGT GAGGGGACTG CTGCTGCTGA AGACTCGGCT GTGACCCGGG GCCCAAAGCC ACCACGTCC
 55 TTCAAAGCC AGATCTTATT TATTTATTTA TTTCAGTACT GGGGCGGAAA CAGCCAGGTG ATCCCCCGC
 CATTATCTCC CCCTAGTTAG AGACAGTCTC TCCGTGAGGC CTGGGGGGCA TCTGTGCCTT ATTTATACTT
 ATTTATTTCA GGAGCAGGGG TGGGAGGCAG GTGAGACTCT GGGTCCCCGA GGAGGAGGGG ACTGGGGTCC
 CGGATTTCTG GGTCTCCAAG AAGTCTGTCC CTGAGACTTCT GCCCTGGCTC TCCCCATCT AGGCTGGGC
 AGGAACATAT ATTAATTTATT TAAGCAATTA CTTTCTGTGT TGGGGTGGGG ACGGAGGGGA AAGGGAAGCC
 60 TGGGTTTTTG TACAAAAATG TGAGAAACCT TTGTGAGACA GAGAACAGGG AATTAAATGT GTCATACATA
 TCCACTTGAG GGCGATTTGT CTGAGAGCTG GGGCTGGATG CTTGGGTAAC TGGGGCAGGG CAGGTGGAGG
 GGAGACCTCC ATTCAGGTGG AGGTCCCAG TGGCGGGGGC AGCGACTGGG AGATGGGTCT GTACCCAGA

004040 "040404" 040404

[illegible]

Human Adenosine A₁ Receptor Nucleic Acid and Antisense Oligonucleotide Fragments

	5'-ATGCCGCCCT	CCATCTCAGC	TTTCCAGGCC	GCCTACATCG	GCATCGAGGT	GCTCATCGCC	CTGGTCTCTG
20	TGCCCCGGGAA	CGTCTGTGTG	ATCTGGGCGG	TGAAGGTGAA	CCAGGCGCTG	CGGGATGCCA	CCTTCTGTCT
	CATCGTCTCG	CTGGCGGTGG	CTGATGTGGC	CGTGGGTGCC	CTGGTCATCC	CCCTCGCCAT	CCTCATCAAC
	ATTGGGCCAC	AGACCTACTT	CCACACCTGC	CTCATGGTTG	CCTGTCCGGT	CCTCATCCTC	ACCCAGAGCT
	CCATCCTGGC	CCTGCTGGCA	ATTGCTGTGG	ACCGCTACCT	CCGGGTCAAG	ATCCCTCTCC	GGTACAAGAT
	GGTGGTGACC	CCCCGGAGGG	CGGCGGTGGC	CATAGCCGGC	TGCTGGATCC	TCTCCTTCGT	GGTGGGACTG
25	CCCCTATGT	TTGGCTGGAA	CAATCTGAGT	GCGGTGGAGC	GGGCCTGGGC	AGCCAACGGC	AGCATGGGGG
	AGCCCGTGAT	CAACGTGCGAG	TTCGAGAAGG	TCATCAGCAT	GGAGTACATG	GTCTACTTCA	ACTTCTTTG
	GTGGGTGCTG	CCCCGCTTTC	TCCTCATGGT	CCTCATCTAC	CTGGAGGTCT	TCTACCTAAT	CCGCAAGCAG
	CTCAACAAGA	AGGTGTGCGC	CTCCTCCGGT	GACCCGAGA	AGTACTATGG	GAAGGAGCTG	AAGATCGCCA
	AGTCGTGGC	CCTCATCCTC	TTCCTCTTTG	CCCTCAGCTG	GCTGCCTTTG	CACATCCTCA	ACTGCATCAC
30	CCTCTTCTGC	CCGTCTTGCC	ACAAGCCCAG	CATCCTTACC	TACATTGCCA	TCTTCTCAC	GCACGGCAAC
	TCGGCCATGA	ACCCATTGT	CTATGCCTTC	CGCATCCAGA	AGTTCGCGT	CACCTTCCTT	AAGATTGGA
	ATGACCATT	CCGTGCCCAG	CCTGCACCTC	CCATTGACGA	GGATCTCCCA	GAAGAGAGGC	CTGATGACTA
	ATGAGTGTCA	GAAGTGTGAA	GGGTGCCTGT	TCTGAATCCC	AGAGCCTCCT	CTCCCTCTGT	GAGGCTGGCA
	GGTGAGGAAG	GGTTAACTT	CACGTGAAGG	AATCCCTGGA	GCTAGCGGCT	GCTGAAGCGG	TCGAGGTGTG
35	GGGGCACTTG	GACAGAACAG	TCAGGCAGCC	GGGAGCTCTG	CCAGCTTTGG	TGACCTTGGG	CCGGCTCTGG
	AGCGCTGCGG	CGGAGCCGG	AGGACTATGA	GCTGCCGCGC	TGTGTCCAGA	CGCCAGCCCA	GCCCTACGCG
	CGCGGCCCGG	AGCTCTGTTC	CCTGGAACCT	TGGGCATGCG	CTCTGGGACC	CCTGCCGGCC	AGCAGGCAGG
	ATGGTGCTTG	CCTCGTGCCC	CTTGGTGCCC	GTCTGCTGAT	GTGCCCAGCC	TGTGCCCGCC	ATGCCGCCCT
	CCATCTCAGC	TTTCAGGCC	GCCTACATCG	GCATCGAGGT	GCTCATCGCC	CTGGTCTCTG	TGCCCGGGAA
40	CGTGCTGGTG	ATCTGGGCGG	TGAAGGTGAA	CCAGGCGCTG	CGGGATGCCA	CCTTCTGTCT	CATCGTGTCT
	CTGGCGGTGG	CTGATGTGGC	CGTGGGTGCC	CTGGTCATCC	CCCTCGCCAT	CCTCATCAAC	ATTGGGCCAC
	AGACCTACTT	CCACACCTGC	CTCATGGTTG	CCTGTCCGGT	CCTCATCCTC	ACCCAGAGCT	CCATCCTGGC
	CCTGTGCTGA	ATTGCTGTGG	ACCGTACCTT	CCGGTCAAG	ATCCCTCTCC	GGTACAAGAT	GGTGGTGACC
	CCCCGGAGGG	CGGCGGTGGC	CATAGCCGGC	TGCTGGATCC	TCTCCTTCGT	GGTGGGACTG	ACCCCTATGT
45	TTGGCTGGAA	CAATCTGAGT	GCGGTGGAGC	GGGCCTGGGC	AGCCAACGGC	AGCATGGGGG	AGCCCGTGAT
	CAAGTGCGAG	TTCCAGAAGG	TCATCAGCAT	GGAGTACATG	GTCTACTTCA	ACTTCTTTGT	GTGGGTGCTG
	CCCCCGCTTC	TCCTCATGGT	CCTCATCTAC	CTGGAGGTCT	TCTACCTAAT	CCGCAAGCAG	CTCAACAAGA
	AGGTGTGCGC	CTCCTCGGGC	GACCCGAGA	AGTACTATGG	GAAGGAGCTG	AAGATCGCCA	AGTCGTGGC
	CCTCATCCTC	TTCCTCTTTG	CCCTCAGCTG	GCTGCCTTTG	CACATCCTCA	ACTGCATCAC	CCTCTTCTGC
50	CCGTCTGTGC	ACAAGCCCAG	CATCCTTACC	TACATTGCCA	TCTTCTCAC	GCACGGCAAC	TCGGCCATGA
	ACCCATTGCT	CTATGCCTTC	CGCATCCAGA	AGTTCCGCGT	CACCTTCCTT	AAGATTGGA	ATGACCATTT
	CCGCTGCCAG	CCTGACCTTC	CCATTGACGA	GGATCTCCCA	GAAGAGAGGC	CTGATGACTA	GACCCGCTCT
	TCCGCTCCCA	CCAGCCCACA	TCCAGTGGGG	TCTCAGTCCA	GTCCTCACAT	GCCCCTGTCT	CCAGGGGTCT
	CCCTGAGCCT	GCCCCAGCTG	GGCTGTTGGC	TGGGGGCATG	GGGGAGGCTC	TGAAGAGATA	CCCACAGAGT
55	GTGGTCCCTC	CACTAGGAGT	TAACCTACCCT	ACACCTCTGG	GCCCTGCAGG	AGGCCTGGGA	GGGCAAGGGT
	CCTACGGAGG	GACAGGTGT	CTAGAGGCAA	CAGTGTCTGT	AGCCCCACC	TGCCTGACCA	TCCCATGAGC
	AGTCCAGCGC	TTCAAGGCTG	GGCAGGTCTT	GGGGAGGCTG	AGACTGCAGA	GGAGCCACCT	GGGCTGGGAG
	AAGGTGCTTG	GGCTCTGCG	GTGAGGCAGG	GGAGTCTGCT	TGTCTTAGAT	GTTGGTGGTG	CAGCCCCAGG
	ACCAAGCTTA	AGGAGGAGG	AGCATCTGCT	CTGAGACGGA	TGGAAGGAGA	GAGGTTGAGG	ATGCACTGGC
60	CTGTTCTGTA	GGAGAGACTG	GCCAGAGGCA	GCTAAGGGGC	AGGAATCAAG	GAGCTCCGT	TCCCACCTCT
	GAGGACTCTG	GACCCAGGC	CATACCAGGT	GCTAAGGGTGC	CTGCTCTCCT	TGCCCTGGGC	CAGCCCCAGG



	TTGTACGTGG	GAGAGGCAGA	AAGGGTAGGT	TCAGTAATCA	TTTCTGATGA	TTTGCTGGAG	TGCTGGCTCC
	ACGCCCTGGG	GAGTGAGCTT	GGTGCGGTAG	GTGCTGGCCT	CAAACAGCCA	CGAGGTGGTA	GCTCTGAGCC
	CTCCTTCTTG	CCCTGAGCTT	TCCGGGGAGG	AGCCTGGAGT	GTAATTACCT	GTCATCTGGG	CCACCAGCTC
	CACTGGCCCC	CGTTCGCGGG	CCTGGACTGT	CCTAGGTGAC	CCCATCTCTG	CTGCTTCTGG	GCCTGATGGA
5	GAGGAGAACA	CTAGACATGC	CAACTCGGGA	GCATTCTGCC	TGCCCTGGGAA	CGGGGTGGAC	GAGGGAGTGT
	CTGTAAGGAC	TCAGTGTGTA	CTGTAGGCGC	CCCTGGGGTG	GGTTTAGCAG	GCTGCAGCAC	GCAGAGGAGG
	AGTACCCCC	TGAGAGCATG	TGGGGGAAGG	CCTTGTCTGC	ATGTGAATCC	CTCAATACCC	CTAGTATCTG
	GCTGGGTTTT	CAGCGGCTTT	GGAAGCTCTG	TTGCAAGTGT	CCGGGGGTCT	AGGACTTTAG	GGATCTGGGA
	TCTGGGGAAG	GACCAACCCA	TGCCCTGCCA	AGCCTGGAGC	CCCTGTGTTG	GGGGGCAAGG	TGGGGGAGCC
10	TGGAGCCCCT	GTGTGGGAGG	GCGAGGCGGG	GGAGCCTGGA	GCCCCTGTGT	GGGAGGGCGA	GGCGGGGGAT
	CCTGGAGCCC	CTGTGTCGGG	GGGCGAGGGA	GGGGAGGTGG	CCGTGCGTTG	ACCTTCTGAA	CATGAGTGT
	AACTCCAGGA	CTTGCTTCCA	AGCCCTTCCC	TCTGTTGGAA	ATTGGGTGTG	CCCTGGCTCC	CAAGGGAGGC
	CCATGTGACT	AATAAAAAAC	TGTGAACCTT	CGCATTTGTG	TTTAAATAAA	AGAATCTGGA	AGATAAATAG
	TCTTGAAGAG	AGACAAGGAA	AGGAAAATTT	AAATCCTTAG	ATTCAAGCAG	AAGAAATCCA	TGTGGAAGGT
15	TTGGGTTGTT	GTGTTGTTTG	TTTGTGTGTG	TTTTGTTTTT	TTTGTTTTTT	TGTTTTTTTT	TGAGATGGAG
	TCTCGCTGTG	TTACCGGGAG	CGACAGAGCC	GCACGGCCGA	TCGAGATCCC	AGCCAGCTAC	CATCCTCTCT
	GAGCTTACCG	GCCGCGCTTG	GCTTCCCCAG	GAATCCCTGG	AGCTAGCGGC	TGCTGAAGGC	GTGAGGTGT
	GGGGGCACTT	GGACAGAACA	GTCAGGCAGC	CGGGAGCTCT	GCCAGCTTTG	GTGACCTTGG	GTGCTTGCCT
	CGTGCCCTTT	GGTGCCCGTC	TGCTGATGTG	CCCAGCCTGT	GCCCCCCATG	CCGCCCTCCA	TCTCAGCTTT
20	CCAGGCCGCC	TACATCGGCA	TCGAGGTGCT	CATCGCCCTG	GTCTCTGTGC	CCGGGAACGT	GCTGGTGATC
	TGGGCGGTGA	AGGTGAACCA	GGCGCTGCGG	GATGCCACCT	TCTGCTTCAT	CGTGTGCTG	GCGGTGGCTG
	ATGTGGCCGT	GGGTGCCCTG	GTCATCCCC	TCGCCATCCT	CATCAACATT	GGGCCACAGA	CCTACTTCCA
	CACCTGCCTC	ATGTTGCTCT	GTCCGGTCTC	CATCCTCACC	CAGAGCTCCA	TGCTGGCCCT	GCTGGGAATT
	GCTGTGGACC	GCTACTCTCG	GGTCAAGATG	CCTTCCCGGT	ACAAGATGGT	GGTGACCCCC	CGGAGGGCGG
25	CGGTGGCCAT	AGCGGGCTGC	TGGATCCTCT	CCTTCGTGGT	GGGACTGACC	CCTATGTTTG	GCTGGAACAA
	TCTGAGTGCG	GTGAGCGGG	CCTGGGCAGC	CAACGGCAGC	ATGGGGGAGC	CCGTGATCAA	GTGCGAGTTC
	GAGAAGGTCA	TACATCATGGA	GTACATGGTC	TACTTCAACT	TCTTTGTGTG	GGTGCTGCCC	CCGCTTCTCC
	TCATGGTCCT	CATCTACCTG	GAGGTCTTCT	ACCTAATCCG	CAAGCAGCTC	AACAAGAAGG	TGTGCGCCTC
	CTCCGGCGAC	CCGACAGAAGT	ACTATGGGAA	GGAGCTGAAG	ATCGCCAAGT	CGCTGGCCCT	CATCCTCTTC
30	CTCTTTGCC	TCACCTGGCT	GCCTTTGCAC	ATCCTCAACT	GCATCAACCT	CTTCTGCCCC	TCCTGCCACA
	AGCCCGGCAT	CCTTACCTAC	ATTGCCATCT	TCCTACGCGA	CGGCAACTCG	GCCATGAACC	CCATTGTCTA
	TGCCTTCCGC	ATCCAGAAGT	TCCGCGTCAC	CTTCTTAAG	ATTTGGAATG	ACCATTTCGG	CTGCGACCTC
	GCACCTCCCA	TTGACGAGGA	TCTCCAGAA	GAGAGGCCTG	ATGACTAGAC	CCCGCCTTCC	GCTCCCACCG
35	CCACATCCA	GTGGGGTCTC	AGTCCAGTCC	TCACATGCCC	GCTGTCCCAG	GGGTCTCCCT	GAGCCTGCCC
	CAGCTGGGCT	GTTCGCTGGG	GGCATGGGGG	AGGCTCTGAA	GAGATACCCA	CAGAGTGTGG	TCCCTCCACT
	AGGAGTTAAC	TACCTACACG	CTCTGGGCCC	TGCAGGAGGC	CTGGGAGGGC	AAGGGTCCTA	CGGAGGGACC
	AGGTGTCTAG	AGGCAACAGT	GTTCTGAGCC	CCCACCTGCC	TGACCATCCC	ATGAGCAGTC	CAGAGCTTCA
	TGGTCTGGGA	GGTCTGGGG	AGGCTGAGAC	TGCAGAGGAG	CCACCTGGGC	TGGGAGAAGG	TGCTTGGGCT
	TCTGCGGTGA	GGCAGGGGAG	TCTGCTTGTC	TTAGATGTTG	GTGGTGCAGC	CCGAGGACCA	AGCTTAAGGA
40	GAGGAGAGCA	TCTGCTCTGA	GACGGATGGA	AGGAGAGAGG	TTGAGGATGC	ACTGGCCTGT	TCTGTAGGAG
	AGACTGGCCA	GAGATGGA	GGGCGGCAT	GGGCGGCGG	GTCGCCGG	GGGCGGCB	BGGCGGCGG
	CBCGCGG	CTGGG	GGGCGGC	GGGCGG	CTGGG	GGCGG	CTGGG
	CGGCAT	GGGCGG	CACAGG	CTGGG	GGGCGG	CTGGG	GGGCGG
	CGGCAT	GGGCGG	CACAGG	CTGGG	GGGCGG	CTGGG	GGGCGG
45	GCATCGAGGT	GCTCATCGCC	CTGGTCTGCT	TGCCCCGGAA	CGTGCTGGTG	ATCTGGGCGG	TGAAGGTGAA
	CCAGGCGCTG	CGGGATGCCA	CCTTCTGCTT	CATCGTCTCG	CTGGCGGTGG	CTGATGTGGC	CGTGGGTGGT
	CTGGTCATCC	CCCTCGCCAT	CCTCATCAAC	ATTGGGCCAC	AGACCTACTT	CCACACCTGC	CTCATGGTTG
	CCTGTCCGGT	CCTCATCCTC	ACCCAGAGCT	CCATCCTGGC	CCTGCTGGCA	ATTGCTGTGG	ACCGCTACCT
	CCGGGTCAAG	ATCCTCTCTC	GGTACAAGAT	GGTGGTGACC	CCCCGGAGGG	CGGCGGTGGC	CATAGCCGGC
50	TGCTGGATCC	TCTCTTCTGT	GGTGGGACTG	ACCCCTATGT	TGGCTGGAA	CAATCTGAGT	GCGGTGGAGC
	GGGCCTGGGC	AGCCAACGGC	AGCATGGGGG	AGCCCGTGAT	CAAGTGCGAG	TTCGAGAAGG	TCATCAGCAT
	GGAGTACATG	GTCCTACTTA	ACTTCTTTGT	GTGGGTGCTG	CCCCCGCTTC	TCCTCATGGT	CCTCATCTAC
	CTGGAGGTCT	TCTACTTAAT	CCGACA				

GTGCCAGCC TGTGCCCCC ATGCCGCCCT CCATCTCAGC TTTCAGGCC GCCTACATCG GCATCGAGGT
 GCTCATGCC CTGCTCTCTG TGCCCCGGAA CGTGCTGGTG ATCTGGGCGG TGAAGGTGAA CCAGGCGCTG
 CGGGATGCCA CCTTCTGCTT CATCGTGTG CTGGCGGTGG CTGATGTGGC CGTGGGTGCC CTGGTCATCC
 CCCTCGCCAT CCTCATCAAC ATTGGGCCAC AGACCTACTT CCACACCTGC CTCATGGTTG CCTGTCCGGT
 5 CCTCATCTC ACCCAGAGCT CCATCCTGGC CCTGCTGGCA ATTGCTGTGG ACCGCTACCT CCGGGTCAAG
 ATCCCTCTCC GGTACAAGAT GGTGGTGACC CCCCAGAGGG CGGCGGTGGC CATAGCCGGC TGCTGGATCC
 TCTCCTTCGT GGTGGGACTG ACCCTATGT TTGGCTGGAA CAATCTGAGT GCGGTGGAGC GGGCCTGGGC
 AGCCAACGGC AGCAATGGGG AGCCCGTGAT CAAGTGCAGG TCGAGAAGG TCATCAGCAT GGAGTACATG
 GTCTACTTCA ACTTCTTTGT GTGGGTGCTG CCCCCGCTTC TCCTCATGGT CCTCATCTAC CTGGAGGTCT
 10 TCTACCTAAT CCGCAAGCAG CTCAACAAGA AGGTGTCTGC CTCCTCCGGC GACCCGCGA AGTACTATGG
 GAAGGAGCTG AAGATCGCCA AGTCGCTGGC CCTCATCTC TTCCTCTTTG CCCTCAGCTG GCTGCCTTTG
 CACATCTCTA ACTGCATCAC CCTCTCTGCG CCGTCTGCTC ACAAGCCAG CATCCTTACC TACATGCCA
 TCTTCTCAC GCACGGCAAC TCGGCCATGA ACCCATTTGT CTATGCCTTC CGCATCCAGA AGTTCCGCGT
 CACCTTCTT AAGATTTGGA ATGACCATT TCCGCTCCCA CCTGCACCTC CCATTGACGA GGATCTCCCA
 15 GAAGAGAGGC CTGATGACTA GACCCCGCCT TCCGCTCCCA CCAGCCACA TCCAGTGGGG TCTCAGTCCA
 GTCCTCACAT GCCCGCTGTC CCAGGGGTCT CCCTGAGCCT GCCCCAGCTG GGCTGTTGGC TGGGGGCATG
 GGGGAGGCTC TGAAGAGATA CCCACAGAGT GTGGTCCCTC CACTAGGAGT TAACCTACCT ACACCTCTGG
 GCCCTGCAGG AGGCTGCGGA GGGCAAGGGT CCTACGGAGG GACCAGGTGT CTAGAGGCAA CAGTGTCTG
 AGCCCCACC TGCCGTGACC TCCCATGAGC AGTCAGCGC TTCAGGGCTG GGCAGGTCTG GGGGAGGCTG
 20 AGACTGCAGA GGAAGCCACCT GGGCTGGGAG AAGGTGCTTG GGCTTCTGCG GGCTTCTGCG GTGAGCGAGG
 TGTCTTAGAT GTTGCTGGTG CAGCCCCAGG ACCAAGCTTA AGGAGAGGAG AGCATCTGCT CTGAGACGGA
 TGGAAGGAGA GAGGTTGAGG ATGCACTGGC CTGTTCTGTA GGAGAGACTG GCCAGAGGCA GCTAAGGGGC
 AGGAATCAAG GAGCTCTCGT TCCCACCTCT GAGGACTCTG GACCCAGGC CATAACAGGT GCTAGGGTGC
 CTGCTCTCCT TGCCCTGGGC CAGCCCAGGA TTGTACGTGG GAGAGGCAGA AAGGTTAGGT TCAGTAATCA
 25 TTTCTGATGA TTTGCTGGAG TGCTGGCTCC ACGCCTGGG GAGTGAGCTT GGTGCGGTAG GTGCTGGCCT
 CAAACAGCCA CGAGGTGGTA GCTCTGAGCC CTCCTTCTTG CCCTGAGCTT TCCGGGGAGG AGCCTGGAGT
 GTAATTACCT GTCACTCTGG CCACAGCTC CACTGGCCCC CGTTGCCGGG CCTGAGCTGT CCTAGGTGAC
 CCCATCTCTG CTGCTTCTGG GCCTGATGGA GAGGAGAACA CTAGACATGC CAACTCGGGA GCATTCTGCC
 TGCTGGGAA CGGCTGGGAC GAGGGAGTGT CTGTAAGGAC TCAGTGTGTA CTGTAGGCGC CCCTGGGGTG
 30 GGTTTAGCAG GCTCAGCAG GCAGAGGAGG AGTACCCCC TGAGAGCATG TGGGGGAAGG CCTGTCTGTC
 ATGTGAATCC CTCATACCC CTAGTATCTG GCTGGGTTT CAGGGGCTTT GGAAGCTCTG TTGCAGGTGT
 CCGGGGTCT AGGACTTTAG GGATCTGGGA TCTGGGGAAG GACCAACCCA TGCCCTGCCA AGCCTGGAGC
 CCCTGTGTTG GGGGGCAAGG TGGGGGAGCC TGGAGCCCT GTGTGGGAGG GCGAGGCGGG GGAGCCTGGA
 GCCCCTGTGT GGGAGGGCGA GCGGGGGGAT CCTGGAGCCC CTGTGTCGGG GGGCGAGGGA GGGGAGGTGG
 35 CCGTCGGTTG ACCTCTGAA CATGAGTGT AACTCAGGA CTGCTTCCA AGCCCTTCCC TCTGTTGAA
 ATTGGGTGTG CCCGGCTCC CAAGGGAGGC CCATGTGACT AATAAAAAAC TGTGAACCT CGATTCTGTG
 TTTTAATAAA AGAATCTGGA AGATAAATAG TCTTGAAGAG AGACAAAGGA AGGAAAATTT AAATCCTTAG
 ATTCAAGCAG AAGAATTCCA TGTGGAAGGT TTGGGTGTT GTTGTGTTG TTTGTGTTT TTTTGTGTTT
 TTTGTTTTT TGTTTTTT TGAGATGGAG TCTCGCTGTG TTACCGGGAG CGACAGAGCC GCACGGCCGA
 40 GTCGAGTCCC AGCCAGCTAC CATCCCTCTG GAGCTTACCG GCCGGCCTTG GCTCCCCAG GAATCCCTGG
 AGCTAGCGGC TGCTGAAGGC GTCGAGGTGT GGGGGCACTT GGACAGAACA GTCAGGCAGC CGGGAGCTCT
 GCCAGCTTGG GTGACCTTGG GTGCTGCTT CCGTCCCCTT GGTGCCCGTC TGCTGATGTG CCCAGCCTGT
 GCCCGCCATG CCGCCTCCA TCTCAGCTTT CAGGGCCGCC TACATCGGCA TCGAGGTGCT CATCGCCTG
 45 GTCTCTGTGC CCGGGAACGT GCTGCTGATC TGGGCGGTGA AGGTGAACCA GCGCTGCGG GATGCCACCT
 TCTGCTTCAT CGTGTGCTG GCGGTGGCTG ATGTGGCCGT GGGTGCCCTG GTCATCCCC TCGCCATCCT
 CATCAACATT GGGCACAGA CCTACTCCA CACCTGCCTC ATGGTTGCCT GTCCGGTCT CATCCTCACC
 CAGAGCTCCA TCCTGCCCT GCTGGCAATT GCTGTGGACC GCTACCTCCG GGTCAAGATC CCTCTCCGGT
 ACAAGATGGT GGTGACCCCT CGGAGGGCGG CGGTGGCCAT AGCCGGCTGC TGGATCCTCT CCTTCTGGT
 GGGACTGACC CCTATGTTT GCTGGAACAA TCTGAGTGCG GTGGAGCGG CCTGGGCAGC CAACGGCAGC
 50 ATGGGGGAGC CCGATGTCAG GTGCGAGTTC GAGAAGGTCA TCAGCATGGA GTACATGGTC TACTTCAACT
 TCTTTGTGTG GGTCTGCC CCGCTTCTCC TCATGGTCC CTACTACCTG GAGGTCTTCT ACCTAATCCG
 CAAGCAGCTC AACAGAAGG TGTGCGCCTC CTCCGGCGAC CCGCAGAAGT ACTATGGGAA GGAGCTGAAG
 ATCGCCAAGT CGCGGCCCT CATCCTCTTC CTCTTTGCC TCAGCTGGCT GCCTTTCAC ATCCTCAACT
 GCATCACCTT CTCTGCCCG TCCTGCCACA AGCCAGCAT CCTTACCTAC ATTGCCATCT TCCTCAGCA
 55 CGGCAACTCG GCCATGAACC CCATTGTCTA TGCTTCCGC ATCCAGAAGT TCCGCGTCAC CTCTCTAAG
 ATTTGGAATG ACCATTTCCG CTGCCAGCCT GCACCTCCA TTGACGAGGA TCTCCAGAA GAGAGGCTG
 ATGACTAGAC CCCGCTTCC GCTCCACCG CCCACATCCA GTGGGTCTC AGTCCAGTCC TCACATGCCC
 GCTGTCCAG GGTCTCCCT GAGCCTGCC AGGATGGT AACCTTACAC TACCTTACAC CTCTGGGCC TGCAGAGG
 60 GAGATACCA CAGATGTGG TCCCTCCACT AGGAGTTAAG TACCCTACAC GTTCTGAGCC CCCACCTGCC
 CTGGGAGGGC AAGGTCTCTA CGGAGGGACC AGGTGTCTAG AGGCAACAGT GTTCTGAGCC TGCAGAGGAG
 TGACCATCCC ATGAGCAGTC CAGAGCTTCA GGGCTGGCA GGTCTGGGG AGGCTGAGAC TGTGCTGTG
 CCACCTGGGC TGGCAGAAGG TGCTGGGCT TCTGCGGTGA GGCAGGGAG TCTGCTGTG TTAGATGTTG

004040 " 6494560

GTGGTGCAGC CCCAGGACCA AGCTTAAGGA GAGGAGAGCA TCTGCTCTGA GACGGATGGA AGGAGAGAGG
 TTGAGGATGC ACTGACCTGT TCTGTAGGAG AGACTGGCCA GA -3' (FRAG.NO:) (SEQ.NO:3005) [2423]
 5'-CGCATTTGTG TTITAATAAA AGAATCTGGA AGATAAATAG TCTTGAAGAG AGACAAAGGA AGGAAAATTT
 AAATCCTTAG ATTC'AAGCAG AAGAATTCCA TGTGGAAGGT TTGGGTGTGTT GTTGTGTGTG TTTGGTGTGT
 5 TTTTGTGTTT TTTGTTTTTT TGTTTTTTTT TGAGATGGAG TCTCGCTGTG TTACCGGGAG CGACAGAGCC
 GCACGGCCGA GTCGAGTCCC AGCCAGCTAC CATCCCTCTG GAGCTTACCG GCCGGCCTTG GCTTCCCCAG
 GAATCCCTGG AGCTAGCGGC TGCTGAAGGC GTCGAGGTGT GGGGGCACTT GGACAGAACA GTCAGGCAGC
 CGGGAGCTCT GCCAGCTTTG GTGACCTTGG GTGCTTGCCT CGTGCCCTT GGTGCCCGTC TGCTGATGTG
 CCCAGCCTGT GCCCGCCATG CCGCCCTCCA TCTCAGCTTT CCAGGCCGCC TACATCGGCA TCGAGGTGCT
 10 CATCGCCCTG GTCTCTGTGC CCGGGAACGT GCTGGTGATC TGGGCGGTGA AGGTGAACCA GGCGCTGCGG
 GATGCCACTT TCTCTTCAT CGTGTGCTG GCGGTGGCTG ATGTGGCCGT GGGTGCCCTG GTCATCCCCC
 TCGCCATCCT CATCAACATT GGGCCACAGA CCTACTCCA CACCTGCCTC ATGGTTGCCT GTCCGGTCTCT
 CATCTCACC CAGA/GCTCCA TCCTGGCCCT GCTGGCAATT GCTGTGGACC GCTACCTCCG GGTCAAGATC
 CCTCTCCGGT ACAAGATGGT GGTGACCCCC CGGAGGGCGG CGGTGGCCAT AGCCGGCTGC TGGATCTCT
 15 CCTTCGTGGT GGGAGCTGACC CCTATGTTT GCTGGAACAA TCTGAGTGC GGTGAGCGGG CCTGGGCAGC
 CAACGGCAGC ATGCGGGGAGC CCGTGATCAA GTGCGAGTTC GAGAAGGTCA TCAGCATGGA GTACATGGTC
 TACTTCAACT TCTTGTGTG GGTGCTGCC CCGCTTCTCC TCATGGTCCT CATCTACCTG GAGGTCTTCT
 ACCTAATCCG CAAC CAGTCC AACAGAAGG TGTGGCCCTC CTCCGGCGAC CCGCAGAAGT ACTATGGGAA
 GGAGCTGAAG ATCGCAAGT CGCTGGCCCT CATCTCTTC CTCTTTGCC TCAGCTGGCT GCCTTTGCAC
 20 ATCTCAACT GCA/CACCCT CTTCTGCCG TCCTGCCACA AGCCAGCAT CCTTACCTAC ATTGCCATCT
 TCCTCACGCA CGGCAACTCG GCCATGAACC CCATTGTCTA TGCCTTCCGC ATCCAGAAGT TCCGCTCAC
 CTTCTTAAG ATTTGGAATG ACCATTTCG CTGCCAGCCT GCACCTCCA TTGACGAGGA TCTCCAGAA
 GAGAGGCCTG ATGA/CTAGAC CCCGCCCTCC GCTCCCACCG CCCACATCCA GTGGGGTCTC AGTCCAGTCC
 TCACATGCCC GCTGTCCAG GGTCTCCCT GAGCCTGCC CAGCTGGGCT GTTGGCTGGG GGCATGGGGG
 25 AGGCTCTGAA GAGA/TACCCA CAGAGTGTG TCCCTCCACT AGGAGTTAAC TACCCTACAC CTCTGGGCCC
 TGCAGGAGGC CTGC/GAGGGC AAGGGTCTA CGGAGGGACC AGGTGTCTAG AGGCAACAGT GTTCTGAGCC
 CCCACCTGCC TGACCATCCC ATGAGCAGTC CAGAGCTTCA GGGCTGGGCA GGTCTGGGG AGGCTGAGAC
 TGCAGAGGAG CCACCTGGGC TGGGAGAAGG TGCTTGGGCT TCTGCGGTGA GGCAGGGGAG TCTGCTGTG
 TTAGATGTTG GTGGTGCAGC CCCAGGACCA AGCTTAAGGA GAGGAGAGCA TCTGCTCTGA GACGGATGGA
 30 AGGAGAGAGG TTGA/GATGC ACTGGCCTGT TCTGTAGGAG AGACTGGCCA GA -3' (FRAG. NO:) (SEQ. ID NO:
 2434)
 5'- ATGAGTGTCA GAAGTGTGAA GGGTGCTGT TCTGAATCCC AGAGCCTCCT CTCCCTCTGT GAGGCTGGCA
 GGTGAGGAAG GGT/TAACT CACTGGAAGG AATCCCTGGA GCTAGCGGCT GCTGAAGGCG TCGAGGTGTG
 GGGGCACTTG GACA/GAACAG TCAGGCAGCC GGGAGCTCTG CCAGCTTTGG TGACCTTGGG CCGGGCTGGG
 35 AGCGTGGCG CGGCAAGCCG AGGACTATGA GCTGCCGCG GTTGTCCAGA GCCAGCCCA GCCCTACCG
 CGCGGCCCG AGCTCTGTTC CTTGGAACCT TGGGCACTGC CTCTGGGACC CCGCCGGCC AGCAGGCAGG
 ATGGTGCTTG CCTCTGCCC CTGTGTGCC GTCTGCTGAT GTGCCAGCC TGTGCCCGCC ATGCCGCCCT
 CCATCTCAGC TTCTCAGGCC GCCTACATCG GCATCGAGGT GCTCATCGCC CTGGTCTCTG TGCCCGGAA
 CGTGCTGTG ATCTGGGCGG TGAAGGTGAA CCAGGCGCTG CGGATGCCA CCTTCTGCTT CATCGTGTG
 40 CTGGCGGTGG CTGA/TGTGGC CGTGGGTGCC CTGGTCATCC CCTCGCCAT CCTCATCAAC ATTTGGCCAC
 AGACCTACTT CCAC/ACCTGC CTCATGGTTG CCTGTCCGGT CCTCATCTC ACCCAGAGCT CCATCTGGC
 CCTCTGGCA ATGTCTGTG ACCGCTACCT CCGGTCAAG ATCCCTCTCC GGTACAAGT GGTGGTGACC
 CCCCAGAGG CGTGGGTGGC CATAGCCGCG TCTGTCATCC TCTCTCTGT TCTGGGACTG ACCCTATGT
 TTGGCTGGAA CAATCTGAGT GCGGTGGAGC GGGCTGGGC AGCCAACGGC AGCATGGGGG AGCCCTGTAT
 45 CAAGTGCGAG TTCA/AGAAGG TCATCAGCAT GGAGTACATG GTCTACTTCA ACTTCTTTGT GTGGGTGCTG
 CCCCCGCTTC TCCTCATGGT CCTCATCTAC CTGGAGGTCT TCTACCTAAT CCGCAAGCAG CTCAACAAGA
 AGGTGTGGC CTCTCCGGC GACCCGCGA AGTACTATGG GAAGGAGCTG AAGATCGCCA AGTCGTGGC
 CCTCATCTC TTCTCTTTG CCTCAGCTG GCTGCCCTTG CACATCCTCA ACTGCATCAC CCTCTCTGC
 CCGTCTGCT ACA/GCCAG CATCTTACC TACATTGCCA TCTTCCTCAC GCACGGCAAC TCGGCCATGA
 50 ACCCATTTG CTATGCCCTC CGCATCCAGA AGTTCGCGT CACCTTCCTT AAGATTTGGA ATGACCATTT
 CCGCTGCCAG CCGT/CACCTC CCATTGACGA GGATCTCCCA GAAGAGAGGC CTGATGACTA GACCCCGCT
 TCCGCTCCA CCAGCCCACA TCCAGTGGGG TCTCAGTCCA GTCCTCACAT GCCCGCTGTC CCAGGGGTCT
 CCCTGAGCCT GCCCCAGCTG GGCTGTTGGC TGGGGGCATG GGGGAGGCTC TGAAGAGATA CCCACAGAGT
 GTGGTCCCTC CACTAGGAGT TAACTACCCT ACACCTCTGG GCCCTGCAGG AGGCCTGGGA GGGCAAGGGT
 55 CCTACGGAGG GACC/AGGTGT CTAGAGGCAA CAGTGTCTG AGCCCCACC TGCTGACCA TCCCATGAGC
 AGTCCAGCGC TTCAGGGCTG GGCAGGTCCT GGGGAGGCTG AGACTGCAGA GGAGCCACCT GGGCTGGGAG
 AAGGTGCTTG GGCTCTGCG GTGAGGCAGG GGAGTCTGCT TGTCTTAGAT GTTGGTGGT CAGCCCCAGG
 ACCAAGCTTA AGGAGAGGAG AGCATCTGCT CTGAGACGGA TGAAGGAGA GAGGTTGAGG ATGCACTGGC
 CTGTTCTGTA GGAGAGACTG GCCAGAGGCA GCTAAGGGGC CTGAAGGCAAG AGGCTCCGT TCCCACTCT
 60 GAGGACTCTG GACC/CCAGGC CATAACAGGT GCTAGGGTGC CTGCTCTCCT TGCCCTGGGC CAGCCCAGGA
 TTGTACGTGG GAG/GGCAGA AAGGGTAGGT TCAGTAATCA TTTCTGATGA TTTGCTGGAG TGCTGGCTCC
 ACGCCCTGGG GAGTGAGCTT GGTGCGGTAG GTGCTGCCCT CAAACAGCCA CGAGGTGGTA GCTCTGAGCC

004070 " 6294560
 004070 " 6294560

CTCCTTCTTG CCCTGAGCTT TCCGGGGAGG AGCCTGGAGT GTAATTACCT GTCATCTGGG CCACCAGCTC
 CACTGGCCCC CGTGGCCGGG CCTGGACTGT CCTAGGTGAC CCCATCTCTG CTGCTTCTGG GCCTGATGGA
 GAGGAGGAACA CTAGACATGC CAACTCGGGA GCATTCTGCC TGCCCTGGGAA CGGGGTGGAC GAGGGAGTGT
 CTGTAAGGAC TCAGTGTGA CTGTAGGCGC CCCTGGGGTG GGTTTAGCAG GCTGCAGCAG CCTCATCAAC
 5 AGTACCCCC TGAGAGCATG TGGGGGAAGG CCTGTCTGTC ATGTGAATCC CTCAATACCC CTAGTATCTG
 GCTGGGTTTT CAGCGGCTTT GGAAGCTCTG TTGCAGGTGT CCGGGGGTCT AGGACTTTAG GGATCTGGGA
 TCTGGGGAAG GACCAACCCA TGCCCTGCCA AGCCTGGAGC CCCTGTGTG GGGGGCAAGG TGGGGGAGCC
 TGGAGCCCCT GTGTGGGAGG GCGAGGCGGG GGAGCCTGGA GCCCCTGTGT GGGAGGGCGA GCGGGGGGAT
 CCTGGAGCCC CTGTGTCGGG GGGCGAGGGA GGGGAGGTGG CCGTCGGTTG ACCTTCTGAA CATGAGTGTG
 10 AACTCCAGGA CTTCCTTCCA AGCCCTTCCC TCTGTTGGAA ATTGGGTGTG CCCTGGCTCC CAAGGGAGGC
 CCATGTGACT AATAA AAAAC TGTGAACCT -3' (FRAG. NO: __)(SEQ. ID NO: 2433)
 5'-ATGCCGCCCT CATCTCAGC TTTCCAGGCC GCCTACATCG GCATCGAGGT GCTCATCGCC CTGGTCTCTG
 TGCCCGGGAA CGTGTCTGGT ATCTGGGCGG TGAAGGTGAA CCAGGCGCTG CCGGATGCCA CCTTCTGCTT
 CATCGTCTCG CTGC CGGTGG CTGATGTGGC CTGGGGTGCC CTGGTCATCC CCCTCGCCAT CCTCATCAAC
 15 ATTGGGCCAC AGACTACTT CCACACCTGC CTCATGGTTG CCTGTCCGGT CCTCATCTC ACCCAGAGCT
 CCATCCTGGC CTGTCTGGCA ATTGCTGTGG ACCGCTACCT CCGGGTCAAG ATCCCTCTCC GGTACAAGAT
 GGTGGTGACC CCCCGGAGGG CGGCGGTGGC CATAGCCGGC TGCTGGATCC TCTCCTTCGT GGTGGGACTG
 ACCCTATGT TTGGCTGGAA CAATCTGAGT GCGGTGGAGC GGGCCTGGGC AGCCAACGGC AGCATGGGGG
 AGCCCGTGAT CAAGTGCAG TTCGAGAAGG TCATCAGCAT GGAGTACATG GTCTACTTCA ACTTCTTTGT
 20 GTGGGTCTG CTCCCGCTTC TCCTCATGGT CCTCATCTAC CTGGAGGTCT TCTACCTAAT CCGCAAGCAG
 GTCAACAAGA AGGTGTGGC AGTCTCGGC GACCCGAGA AGTACTATGG GAAGGAGCTG AAGATCGCCA
 AGTCGCTGGC CCTCATCTC TTCCTCTTTC CCCTCAGCTG GCTGCCTTG CACATCTCA ACTGCATCAC
 CCTCTTCTGC CCGTCTGCC ACAAGCCAG CATCCTACC TACATTGCCA TCTTCTCAC GCACGGCAAC
 TCGGCCATGA ACCCATTTGT CTATGCCTTC CGCATCCAGA AGTTCGCGT CACCTTCCTT AAGATTGGA
 25 ATGACCATT CCGCTGCCAG CCTGCACCTC CCATTGACGA GGATCTCCA GAAGAGAGGC CTGATGACTA G-3'
 (FRAG. NO: __)(SEQ. ID NO: 2432)
 5'-CGCATTGTG TTITAATAAA AGAATCTGGA AGATAAATAG TCTTGAAGAG AGACAAAGGA AGGAAAATTT
 AAATCCTTAG ATTCAAGCAG AAGAATTCCA TGTGGAAGGT TTGGGTGTGT GTTGTGTGTG TTTGGTGTGT
 TTTTGTGTTT TTTGTTTTT TGTTTTTTTT TGAGATGGAG TCTCGCTGTG TTACCGGGAG CGACAGAGCC
 30 GCACGGCCGA GTCAGTCCC AGCCAGCTAC CATCCCTCTG GAGCTTACCG GCCGGCCTTG GCTTCCCCAG
 GAATCCCTGG AGCTAGCGGC TGCTGAAGGC GTCGAGGTGT GGGGGCACTT GGACAGAACA GTCAGGCAGC
 CGGGAGCTCT GCCAGCTTTG GTGACCTTGG GTGCTTGCCCT CGTGCCCTT GGTGCCCCGTC TGCTGATGTG
 CCCAGCCTGT GCCCGCATG CCGCCCTCCA TCTCAGCTTT CCAGGCCGCC TACATCGGCA TCGAGGTGCT
 CATCGCCCTG GTCTCTGTGC CCGGGAACGT GCTGGTGATC TGGGCGGTGA AGGTGAACCA GGCCTGCGG
 35 GATGCCACCT TCTGCTTCAT CGTGTGCTG GCGGTGGCTG ATGTGGCCGT GGGTGCCCTG GTCATCCCCC
 TCGCCATCCT CATCAACATT GGGCCACAGA CCTACTTCCA CACCTGCCTC ATGGTTGCCT GTCCGGTCTC
 CATCTCACC CAGAGCTCCA TCCTGGCCCT GCTGGCAATT GCTGTGGACC GCTACCTCCG GGTCAAGATC
 CCTCTCCGGT ACAAGATGGT GGTGACCCCG CGGAGGCGG CGGTGGCCAT AGCCGGCTGC TGGATCCTCT
 CCTTCGTGGT GGGACTGACC CCTATGTTTG GCTGGAACAA TCTGAGTGC GTGGAGCGGG CTGGGCAGC
 40 CAACGGCAGC ATGC GGGAGC CCGTGATCAA GTGCGAGTTC GAGAAGGTCA TCAGCATGGA GTACATGGTC
 TACTTCAACT TCTTGTGTG GGTGCTGCC CCGCTTCTCC TCATGGTCTC CATCTACCTG GAGGTCTTCT
 ACCTAATCCG CAAGCAGCTC AACAAGAAGG TGTCGGCTC CTCCGGCGAC CCGCAGAAGT ACTATGGGAA
 GGAGCTGAAG ATGCCAAGT CGCTGGCCCT CATCCTCTC CTCTTTGCC TCAGCTGGCT GCCTTGCAC
 ATCTCAACT GCATACCCCT CTCTGCCCC TCCTGCCACA AGCCAGCAT CCTACCTAC ATTGCCATCT
 45 TCTCACGCA CGGCAACTCG GCCATGAACC CCATTGTCTA TGCCCTCCGC ATCCAGAAGT TCCGCTCAC
 CTCTCTAAG ATTTGGAATG ACCATTTCCG CTGCCAGCT GCACCTCCA TTGACGAGGA TCTCCAGAA
 GAGAGGCCTG ATGA/CTAGAC CCCGCCCTCC GCTCCACCG CCCACATCCA GTGGGTCTC AGTCCAGTCC
 TCACATGCCC GCTGTCCAG GGTCTCCCT GAGCTGCC CAGCTGGGCT GTTGGCTGGG GGCATGGGGG
 AGGCTCTGAA GAGA/TACCA CAGAGTGTG TCCCTCCACT AGGAGTTAAC TACCCTACAC CTCTGGGCC
 50 TGCAGGAGGC CTGGGAGGGC AAGGGTCCTA CGGAGGGACC AGGTGTCTAG AGGCAACAGT GTTCTGAGCC
 CCCACCTGCC TGACATCCC ATGAGCAGT CAGAGCTTCA GGGCTGGGCA GGTCTGGGG AGGCTGAGAC
 TGCAGAGGAG CCACCTGGGC TGGGAGAAG TGCTGGGCT TCTGCGGTGA GGCAGGGGAG TCTGCTGTG
 TTAGATGTTG GTGGIGCAG CCCAGGACCA AGCTTAAGGA GAGGAGAGCA TCTGCTCTGA GACGGATGGA
 AGGAGAGAGG TTGAGGATGC ACTGGCCTGT TCTGTAGGAG AGACTGGCCA GA -3'
 55 (FRAG. NO: __)(SEQ. ID NO: 2422)
 5'-ATGAGTGTCA GAAGTGTGAA GGGTGCCTGT TCTGAATCCC AGAGCCTCCT CTCCCTCTGT GAGGCTGGCA
 GGTGAGGAAG GGTATAACCT CACTGGAAGG AATCCCTGGA GCTAGCGGCT GCTGAAGGCG TCGAGGTGTG
 GGGGCACTTG GACAGAACAG TCAGGCAGCC GGGAGCTCTG CCAGCTTTGG TGACCTTGGG CCGGGCTGGG
 AGCGCTGCG CGGAGCCGG AGGACTATGA GCTGCCGCG GTTGTCCAGA GCCAGCCCA GCCCTACGCG
 60 CGCGGCCCG AGCTCTGTT CCTGGAACCT TGGCACTGC CTCTGGGACC CCTGCCGGC AGCAGGCAGG
 ATGGTGCTTG CCTCTGCC CTTGGTGCC GTCTGCTGAT GTGCCAGCC TGTGCCCGCC ATGCCGCCCT

CCATCTCAGC TTTCAGGCC GCCTACATCG GCATCGAGGT GCTCATCGCC CTGGTCTCTG TGCCCGGGAA
 CGTGCTGGTG ATCTGGGCGG TGAAGGTGAA CCAGGCGCTG CGGGATGCCA CCTTCTGCTT CATCGTGTGC
 CTGGCGGTGG CTGATGTGGC CGTGGGTGCC CTGGTCAATC CCCTCGCCAT CCTCATCAAC ATTTGGGCCAC
 AGACCTACTT CCACACCTGC CTCATGGTTG CCTGTCCGGT CCTCATCCTC ACCCAGAGCT CCATCCTGGC
 5 CCTGCTGGCA ATTGCTGTGG ACCGCTACCT CCGGGTCAAG ATCCCTCTCC GGTACAAGAT GGTGGTGACC
 CCCCAGAGGG CGGCGGTGGC CATAGCCGGC TGCTGGATCC TCTCCTTCGT GGTGGGACTG ACCCCTATGT
 TTGGCTGGAA CAACTGTAGT GCGGTGGAGC GGGCCTGGGC AGCCAACGGC AGCATGGGGG AGCCCGTGAT
 CAAGTGCGAG TTCGAGAAGG TCATCAGCAT GGAGTACATG GTCTACTTCA ACTTCTTTGT GTGGGTGCTG
 CCCCCTCTC TCCCATGCTT CCTCATCTAC CTGGAGGTCT TCTACCTAAT CCGCAAGCAG CTCAACAAGA
 10 AGGTGTGGC CTCTCCGGC GACCCGAGC AGTACTATGG GAAGGAGCTG AAGATCGCCA AGTCGCTGGC
 CCTCATCTT TTCTCTTTG CCTCAGCTG GCTGCCCTTG CACATCCTCA ACTGCATCAC CCTCTTCTGC
 CCGTCTGCTG ACAAGGCCAG CATCCTTACC TACATTGCCA TCTTCTCAC GCACGGCAAC TCGGCCATGA
 ACCCATTTGT CTATGCCTTC CGCATCCAGA AGTTCCGCGT CACCTTCCTT AAGATTGGA ATGACCATT
 CCGCTGCCAG CCTCACCTC CCATTGACGA GGATCTCCCA GAAGAGAGGC CTGATGACTA GACCCGCTT
 15 TCCGCTCCCA CCACGCCACA TCCAGTGGGG TCTCAGTCCA GTCCTCACAT GCCCCTGTGTC CCAGGGGTCT
 CCCTGAGCCT GCCCAGCTG GGCTGTTGGC TGGGGGCATG GGGGAGGCTC TGAAGAGATA CCCACAGAGT
 GTGGTCCCTC CACTAGGAGT TAACTACCCT ACACCTCTGG GCCCTGCAGG AGGCCTGGGA GGGCAAGGGT
 CCTACGGAGG GACAGGTTGT CTAGAGGCAA CAGTGTCTG AGCCCCACC TGCCTGACCA TCCCATGAGC
 AGTCCAGCGC TTCAGGGCTG GGCAGGTCTT GGGGAGGCTG AGACTGCAGA GGAGCCACCT GGGCTGGGAG
 20 AAGGTGCTTG GGCCTCTGCG GTGAGGAGG GGAGTCTGCT TGTCTTAGAT GTTGGTGGT GAGCCCCAGG
 ACCAAGCTTA AGGAGAGGAG AGCATCTGCT CTGAGACGGA TGGAAAGGAGA GAGGTGAGG ATGCACTGGC
 CTGTTCTGTA GGAGAGACTG GCCAGAGGCA GCTAAGGGGC AGGAATCAAG GAGCCTCCGT TCCCACCTCT
 GAGGACTCTG GACCCAGGC CATAACAGGT GCTAGGGTGC CTGCTCTCCT TGCCTGGGC CAGCCCAGGA
 TTGTACGTGG GAGAGGCGA AAGGGTAGGT TCAGTAATCA TTTCTGATGA TTTGCTGGAG TGCTGGCTCC
 25 ACGCCCTGGG GAGTGGCTT GGTGCGGTAG GTGCTGGCTT CAAACAGCCA CGAGGTGGTA GCTCTGAGCC
 CTCCTTCTTG CCTGAGCTT TCCGGGGAGG AGCCTGGAGT GTAATTACCT GTCATCTGGG CCACCAGCTC
 CACTGGCCCC CGTGGCCGG CCTGGACTGT CCTAGGTGAC CCCATCTCTG CTGCTTCTGG GCCTGATGGA
 GAGGAGAACA CTAGACATGC CAACTCGGGA GCATTCTGCC TGCCTGGGAA CGGGGTGGAC GAGGGAGTGT
 CTGTAAGGAC TCATGTTGA CTGTAGGCGC CCCTGGGGTG GGTTAGCAG GCTGCAGCAG GCAGAGGAGG
 30 AGTACCCCC TGACAGCATG TGGGGGAAGG CCTGTCTGTC ATGTGAATCC CTCAATACCC CTAGTATCTG
 GCTGGGTTT CAGGGGCTT GGAAGCTCTG TTGCAGGTGT CCGGGGGTCT AGGACTTAG GGATCTGGGA
 TCTGGGGAAG GACCAACCCA TGCCCTGCCA AGCCTGGAGC CCCTGTGTG GGGGGCAAGG TGGGGAGCC
 TGGAGCCCCT GTGTGGGAG GCGAGGCGGG GGAGCCTGGA GCCCCTGTGT GGGAGGGCGA GGCGGGGAT
 35 CCTGGAGCCC CTGTGTCGGG GGGCGAGGGA GGGGAGGTGG CCGTCGGTTG ACCTTCTGAA CATGAGTGTC
 AACTCCAGGA CTTCCTCCA AGCCCTTCCC TCTGTTGAA ATTGGGTGTG CCCTGGCTCC CAAGGGAGGC
 CCATGTGACT AATAAAAAA TGTGAACCT -3' (FRAG. NO:) (SEQ. ID NO: 2421)
 5'-ATGCCGCCCT CAATCTCAGC TTCCAGGCC GCCTACATCG GCATCGAGGT GCTCATCGCC CTGGTCTCTG
 TGCCCGGGAA CGTCCTGGTG ATCTGGGCGG TGAAGGTGAA CCAGGCGCTG CGGGATGCCA CCTTCTGCTT
 40 CATCGTCTCG CTGGCGGTGG CTGATGTGGC CGTGGGTGCC CTGGTCAATC CCCTCGCCAT CCTCATCAAC
 ATTTGGGCCAC AGACTACTT CCACACCTGC CTCATGGTTG CCTGTCCGGT CCTCATCCTC ACCCAGAGCT
 CCATCCTGGC CCTGCTGGCA ATTGCTGTGG ACCGCTACCT CCGGGTCAAG ATCCCTCTCC GGTACAAGAT
 GGTGGTGACC CCCCAGAGGG CGGCGGTGGC CATAGCCGGC TGCTGGATCC TCTCCTTCGT GGTGGGACTG
 CCCCTATGT TTGGCIGGAA CAATCTGAGT GCGGTGGAGC GGGCCTGGGC AGCCAACGGC AGCATGGGGG
 AGCCCGTAGT CAAC TCGGAG TTGAGAAAG TCATCAGCAT GGAGTACATG GTCTACTTCA ACTTCTTTGT
 45 GTGGGTGCTG CCCCCTCTC TCCTCATGGT CCTCATCTAC CTGGAGGTCT TCTACCTAAT CCGCAAGCAG
 CTCAACAAGA AGGTGTCGGC CTCTCCGGC GACCCGAGCA AGTACTATGG GAAGGAGCTG AAGATCGCCA
 AGTCGCTGGC CCTCATCCTC TTCCTCTTTG CCTCAGCTG GCTGCCCTTG CACATCCTCA ACTGCATCAC
 CCTCTCTGC CCGTCTGCC ACAAGCCAG CATCCTTACC TACATTGCCA TCTTCTCAC GCACGGCAAC
 TCGGCCATGA ACCCATTTGT CTATGCCTTC CGCATCCAGA AGTTCCGCGT CACCTTCCTT AAGATTGGA
 50 ATGACCATTT CCGCTGCCAG CCTGCACCTC CCATTGACGA GGATCTCCCA GAAGAGAGGC CTGATGACTA G
 (FRAG NO:) (SEQ. ID NO: 2420)
 5'-GAT GGA GGG CGG CAT GGC GGG-3' (FRAG. NO: 1657) (SEQ ID NO:2412)
 5'-G CGG GTC GCC GC-3' (FRAG. NO: 1658) (SEQ ID NO:2413)
 5'-GGC GGG CBC BGG C-3' (FRAG. NO: 1659) (SEQ ID NO:2414)
 55 5'-GGC GGG CBC-3' (FRAG. NO: 1660) (SEQ ID NO:2415)
 5'-GC GGC CTG G-3' (FRAG. NO: 1661) (SEQ ID NO:2416)
 5'-GGB GGG CGG C-3' (FRAG. NO: 1662) (SEQ ID NO:2417)
 5'-GBT GGB GGG-3' (FRAG. NO: 1663) (SEQ ID NO:2418)
 5'-GG CTG GGC-3' (FRAG. NO: 1664) (SEQ ID NO:2419)
 60 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG.1) (SEQ. ID NO: 11)
 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 2) (SEQ. ID NO:12)

- 5'-GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 3) (SEQ. ID NO: 13)
 5'-GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 4) (SEQ. ID NO: 14)
 5'-C CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 5) (SEQ. ID NO: 15)
 5'-CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 6) (SEQ. ID NO: 16)
 5 5'-TG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 7) (SEQ. ID NO: 17)
 5'-G GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 8) (SEQ. ID NO: 18)
 5'-GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 9) (SEQ. ID NO: 19)
 5'-AA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 10) (SEQ. ID NO: 20)
 5'-A AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 11) (SEQ. ID NO: 21)
 10 5'-AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 12) (SEQ. ID NO: 22)
 5'-GC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 13) (SEQ. ID NO: 23)
 5'-C TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 14) (SEQ. ID NO: 24)
 5'-TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 15) (SEQ. ID NO: 25)
 5'-GA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 16) (SEQ. ID NO: 26)
 15 5'-A GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 17) (SEQ. ID NO: 27)
 5'-GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 18) (SEQ. ID NO: 28)
 5'-AT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 19) (SEQ. ID NO: 29)
 5'-T GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 20) (SEQ. ID NO: 30)
 5'-GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 21) (SEQ. ID NO: 31)
 20 5'-GA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 22) (SEQ. ID NO: 32)
 5'-A GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 23) (SEQ. ID NO: 33)
 5'-GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 24) (SEQ. ID NO: 34)
 5'-GG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 25) (SEQ. ID NO: 35)
 5'-G CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 26) (SEQ. ID NO: 36)
 25 5'-CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 27) (SEQ. ID NO: 37)
 5'-GG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 28) (SEQ. ID NO: 38)
 5'-G CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 29) (SEQ. ID NO: 39)
 5'-CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 30) (SEQ. ID NO: 40)
 5'-AT GGC GGG CAC AGG CTG GGC-3' (FRAG 31) (SEQ. ID NO: 41)
 30 5'-T GGC GGG CAC AGG CTG GGC-3' (FRAG 32) (SEQ. ID NO: 42)
 5'-GGC GGG CAC AGG CTG GGC-3' (FRAG 33) (SEQ. ID NO: 43)
 5'-GC GGG CAC AGG CTG GGC-3' (FRAG 34) (SEQ. ID NO: 44)
 5'-C GGG CAC AGG CTG GGC-3' (FRAG 35) (SEQ. ID NO: 45)
 5'-GGG CAC AGG CTG GGC-3' (FRAG 36) (SEQ. ID NO: 46)
 35 5'-GG CAC AGG CTG GGC-3' (FRAG 37) (SEQ. ID NO: 47)
 5'-G CAC AGG CTG GGC-3' (FRAG 38) (SEQ. ID NO: 48)
 5'-CAC AGG CTG GGC-3' (FRAG 39) (SEQ. ID NO: 49)
 5'-AC AGG CTG GGC-3' (FRAG 40) (SEQ. ID NO: 50)
 5'-C AGG CTG GGC-3' (FRAG 41) (SEQ. ID NO: 51)
 40 5'-AGG CTG GGC-3' (FRAG 42) (SEQ. ID NO: 52)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 43) (SEQ. ID NO: 53)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 44) (SEQ. ID NO: 54)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 45) (SEQ. ID NO: 55)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 46) (SEQ. ID NO: 56)
 45 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 47) (SEQ. ID NO: 57)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 48) (SEQ. ID NO: 58)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT TGC GGG CAC AGG CTG GGC-3' (FRAG 49) (SEQ. ID NO: 59)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 50) (SEQ. ID NO: 60)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 51) (SEQ. ID NO: 61)
 50 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 52) (SEQ. ID NO: 62)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT TGC GGG CAC AGG CTG GGC-3' (FRAG 53) (SEQ. ID NO: 63)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT TGC GGG CAC AGG CTG GGC-3' (FRAG 54) (SEQ. ID NO: 64)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT TGC GGG CAC AGG CTG GGC-3' (FRAG 55) (SEQ. ID NO: 65)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT TGC GGG CAC AGG CTG GGC-3' (FRAG 56) (SEQ. ID NO: 66)
 55 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT TGC GGG CAC AGG CTG GGC-3' (FRAG 57) (SEQ. ID NO: 67)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT TGC GGG CAC AGG CTG GGC-3' (FRAG 58) (SEQ. ID NO: 68)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT TGC GGG CAC AGG CTG GGC-3' (FRAG 59) (SEQ. ID NO: 69)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT TGC GGG CAC AGG CTG GGC-3' (FRAG 60) (SEQ. ID NO: 70)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT TGC GGG CAC AGG CTG GGC-3' (FRAG 61) (SEQ. ID NO: 71)
 60 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG CA-3' (FRAG 62) (SEQ. ID NO: 72)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG C-3' (FRAG 63) (SEQ. ID NO: 73)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CGG -3' (FRAG 64) (SEQ. ID NO: 74)

- 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG CG -3' (FRAG 65) (SEQ. ID NO: 75)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG C -3' (FRAG 66) (SEQ. ID NO: 76)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GGG -3' (FRAG 67) (SEQ. ID NO: 77)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA GG -3' (FRAG 68) (SEQ. ID NO: 78)
 5 5'-GGC GGC CTG GAA AGC TGA GAT GGA G -3' (FRAG 69) (SEQ. ID NO: 79)
 5'-GGC GGC CTG GAA AGC TGA GAT GGA -3' (FRAG 70) (SEQ. ID NO: 80)
 5'-GGC GGC CTG GAA AGC TGA GAT GG -3' (FRAG 71) (SEQ. ID NO: 81)
 5'-GGC GGC CTG GAA AGC TGA GAT G -3' (FRAG 72) (SEQ. ID NO: 82)
 5'-GGC GGC CTG GAA AGC TGA GAT -3' (FRAG 73) (SEQ. ID NO: 83)
 10 5'-GGC GGC CTG GAA AGC TGA GA-3' (FRAG 74) (SEQ. ID NO: 84)
 5'-GGC GGC CTG GAA AGC TGA G-3' (FRAG 75) (SEQ. ID NO: 85)
 5'-GGC GGC CTG GAA AGC TGA-3' (FRAG 76) (SEQ. ID NO: 86)
 5'-GGC GGC CTG GAA AGC TG-3' (FRAG 77) (SEQ. ID NO: 87)
 5'-GGC GGC CTG GAA AGC T-3' (FRAG 78) (SEQ. ID NO: 88)
 15 5'-GGC GGC CTG GAA AGC-3' (FRAG 79) (SEQ. ID NO: 89)
 5'-GGC GGC CTG GAA AG-3' (FRAG 80) (SEQ. ID NO: 90)
 5'-GGC GGC CTG GAA A-3' (FRAG 81) (SEQ. ID NO: 91)
 5'-GGC GGC CTG GAA-3' (FRAG 82) (SEQ. ID NO: 92)
 5'-GGC GGC CTG GA-3' (FRAG 83) (SEQ. ID NO: 93)
 20 5'-GGC GGC CTG G-3' (FRAG 84) (SEQ. ID NO: 94)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 85) (SEQ. ID NO: 95)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 86) (SEQ. ID NO: 96)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 87) (SEQ. ID NO: 97)
 25 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 88) (SEQ. ID NO: 98)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CT-3' (FRAG 89) (SEQ. ID NO: 99)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG C-3' (FRAG 90) (SEQ. ID NO: 100)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG -3' (FRAG 91) (SEQ. ID NO: 101)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AG-3' (FRAG 92) (SEQ. ID NO: 102)
 30 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC A-3' (FRAG 93) (SEQ. ID NO: 103)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC-3' (FRAG 94) (SEQ. ID NO: 104)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CA-3' (FRAG 95) (SEQ. ID NO: 105)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG C-3' (FRAG 96) (SEQ. ID NO: 106)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG -3' (FRAG 97) (SEQ. ID NO: 107)
 35 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GG-3' (FRAG 98) (SEQ. ID NO: 108)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC G-3' (FRAG 99) (SEQ. ID NO: 109)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC -3' (FRAG 100) (SEQ. ID NO: 110)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GG -3' (FRAG 101) (SEQ. ID NO: 111)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT G -3' (FRAG 102) (SEQ. ID NO: 112)
 40 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT -3' (FRAG 103) (SEQ. ID NO: 113)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG CA-3' (FRAG 104) (SEQ. ID NO: 114)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG C-3' (FRAG 105) (SEQ. ID NO: 115)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CGG -3' (FRAG 106) (SEQ. ID NO: 116)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG CG -3' (FRAG 107) (SEQ. ID NO: 117)
 45 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG C -3' (FRAG 108) (SEQ. ID NO: 118)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GGG -3' (FRAG 109) (SEQ. ID NO: 119)
 5'-GC GGC CTG GAA AGC TGA GAT GGA GG -3' (FRAG 110) (SEQ. ID NO: 120)
 5'-GC GGC CTG GAA AGC TGA GAT GGA G -3' (FRAG 111) (SEQ. ID NO: 121)
 5'-GC GGC CTG GAA AGC TGA GAT GGA -3' (FRAG 112) (SEQ. ID NO: 122)
 50 5'-GC GGC CTG GAA AGC TGA GAT GG -3' (FRAG 113) (SEQ. ID NO: 123)
 5'-GC GGC CTG GAA AGC TGA GAT G -3' (FRAG 114) (SEQ. ID NO: 124)
 5'-GC GGC CTG GAA AGC TGA GAT -3' (FRAG 115) (SEQ. ID NO: 125)
 5'-GC GGC CTG GAA AGC TGA GA-3' (FRAG 116) (SEQ. ID NO: 126)
 5'-GC GGC CTG GAA AGC TGA G-3' (FRAG 117) (SEQ. ID NO: 127)
 55 5'-GC GGC CTG GAA AGC TGA-3' (FRAG 118) (SEQ. ID NO: 128)
 5'-GC GGC CTG GAA AGC TG-3' (FRAG 119) (SEQ. ID NO: 129)
 5'-GC GGC CTG GAA AGC T-3' (FRAG 120) (SEQ. ID NO: 130)
 5'-GC GGC CTG GAA AGC-3' (FRAG 121) (SEQ. ID NO: 131)
 5'-GC GGC CTG GAA AG-3' (FRAG 122) (SEQ. ID NO: 132)
 60 5'-GC GGC CTG GAA A-3' (FRAG 123) (SEQ. ID NO: 133)
 5'-GC GGC CTG GAA-3' (FRAG 124) (SEQ. ID NO: 134)
 5'-GC GGC CTG GA-3' (FRAG 125) (SEQ. ID NO: 135)

- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 126) (SEQ. ID NO: 136)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 127) (SEQ. ID NO: 137)
- 5 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 128) (SEQ. ID NO: 138)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 129) (SEQ. ID NO: 139)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CT-3' (FRAG 130) (SEQ. ID NO: 140)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG C-3' (FRAG 131) (SEQ. ID NO: 141)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG -3' (FRAG 132) (SEQ. ID NO: 142)
- 10 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AG-3' (FRAG 133) (SEQ. ID NO: 143)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC A-3' (FRAG 134) (SEQ. ID NO: 144)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC-3' (FRAG 135) (SEQ. ID NO: 145)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CA-3' (FRAG 136) (SEQ. ID NO: 146)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG C-3' (FRAG 137) (SEQ. ID NO: 147)
- 15 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG -3' (FRAG 138) (SEQ. ID NO: 148)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GG-3' (FRAG 139) (SEQ. ID NO: 149)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC G-3' (FRAG 140) (SEQ. ID NO: 150)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC -3' (FRAG 141) (SEQ. ID NO: 151)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GG -3' (FRAG 142) (SEQ. ID NO: 152)
- 20 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT G -3' (FRAG 143) (SEQ. ID NO: 153)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT -3' (FRAG 144) (SEQ. ID NO: 154)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG CA-3' (FRAG 145) (SEQ. ID NO: 155)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG C-3' (FRAG 146) (SEQ. ID NO: 156)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CGG -3' (FRAG 147) (SEQ. ID NO: 157)
- 25 5'-C GGC CTG GAA AGC TGA GAT GGA GGG CG -3' (FRAG 148) (SEQ. ID NO: 158)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG C -3' (FRAG 149) (SEQ. ID NO: 159)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GGG -3' (FRAG 150) (SEQ. ID NO: 160)
- 5'-C GGC CTG GAA AGC TGA GAT GGA GG -3' (FRAG 151) (SEQ. ID NO: 161)
- 5'-C GGC CTG GAA AGC TGA GAT GGA G -3' (FRAG 152) (SEQ. ID NO: 162)
- 30 5'-C GGC CTG GAA AGC TGA GAT GGA -3' (FRAG 153) (SEQ. ID NO: 163)
- 5'-C GGC CTG GAA AGC TGA GAT GG -3' (FRAG 154) (SEQ. ID NO: 164)
- 5'-C GGC CTG GAA AGC TGA GAT G -3' (FRAG 155) (SEQ. ID NO: 165)
- 5'-C GGC CTG GAA AGC TGA GAT -3' (FRAG 156) (SEQ. ID NO: 166)
- 5'-C GGC CTG GAA AGC TGA GA-3' (FRAG 157) (SEQ. ID NO: 167)
- 35 5'-C GGC CTG GAA AGC TGA G-3' (FRAG 158) (SEQ. ID NO: 168)
- 5'-C GGC CTG GAA AGC TGA-3' (FRAG 159) (SEQ. ID NO: 169)
- 5'-C GGC CTG GAA AGC TG-3' (FRAG 160) (SEQ. ID NO: 170)
- 5'-C GGC CTG GAA AGC T-3' (FRAG 161) (SEQ. ID NO: 171)
- 5'-C GGC CTG GAA AGC-3' (FRAG 162) (SEQ. ID NO: 172)
- 40 5'-C GGC CTG GAA AG-3' (FRAG 163) (SEQ. ID NO: 173)
- 5'-C GGC CTG GAA A-3' (FRAG 164) (SEQ. ID NO: 174)
- 5'-C GGC CTG GAA-3' (FRAG 165) (SEQ. ID NO: 175)
- 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 166) (SEQ. ID NO: 176)
- 45 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 167) (SEQ. ID NO: 177)
- 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 168) (SEQ. ID NO: 178)
- 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 169) (SEQ. ID NO: 179)
- 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CT-3' (FRAG 170) (SEQ. ID NO: 180)
- 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG C-3' (FRAG 171) (SEQ. ID NO: 181)
- 50 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG -3' (FRAG 172) (SEQ. ID NO: 182)
- 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AG-3' (FRAG 173) (SEQ. ID NO: 183)
- 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC A-3' (FRAG 174) (SEQ. ID NO: 184)
- 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC-3' (FRAG 175) (SEQ. ID NO: 185)
- 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CA-3' (FRAG 176) (SEQ. ID NO: 186)
- 55 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG C-3' (FRAG 177) (SEQ. ID NO: 187)
- 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG -3' (FRAG 178) (SEQ. ID NO: 188)
- 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GG-3' (FRAG 179) (SEQ. ID NO: 189)
- 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC G-3' (FRAG 180) (SEQ. ID NO: 190)
- 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC -3' (FRAG 181) (SEQ. ID NO: 191)
- 60 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT GG -3' (FRAG 182) (SEQ. ID NO: 192)
- 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT G -3' (FRAG 183) (SEQ. ID NO: 193)
- 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CAT -3' (FRAG 184) (SEQ. ID NO: 194)

[illegible]

- 5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG CA-3' (FRAG 185) (SEQ. ID NO: 195)
5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG C-3' (FRAG 186) (SEQ. ID NO: 196)
5'- GGC CTG GAA AGC TGA GAT GGA GGG CGG -3' (FRAG 187) (SEQ. ID NO: 197)
5'- GGC CTG GAA AGC TGA GAT GGA GGG CG -3' (FRAG 188) (SEQ. ID NO: 198)
5'- GGC CTG GAA AGC TGA GAT GGA GGG C -3' (FRAG 189) (SEQ. ID NO: 199)
5'- GGC CTG GAA AGC TGA GAT GGA GGG -3' (FRAG 190) (SEQ. ID NO: 200)
5'- GGC CTG GAA AGC TGA GAT GGA GG -3' (FRAG 191) (SEQ. ID NO: 201)
5'- GGC CTG GAA AGC TGA GAT GGA G -3' (FRAG 192) (SEQ. ID NO: 202)
5'- GGC CTG GAA AGC TGA GAT GGA -3' (FRAG 193) (SEQ. ID NO: 203)
5'- GGC CTG GAA AGC TGA GAT GG -3' (FRAG 194) (SEQ. ID NO: 204)
5'- GGC CTG GAA AGC TGA GAT G -3' (FRAG 195) (SEQ. ID NO: 205)
5'- GGC CTG GAA AGC TGA GAT -3' (FRAG 196) (SEQ. ID NO: 206)
5'- GGC CTG GAA AGC TGA GA-3' (FRAG 197) (SEQ. ID NO: 207)
5'- GGC CTG GAA AGC TGA G-3' (FRAG 198) (SEQ. ID NO: 208)
5'- GGC CTG GAA AGC TGA-3' (FRAG 199) (SEQ. ID NO: 209)
5'- GGC CTG GAA AGC TG-3' (FRAG 200) (SEQ. ID NO: 210)
5'- GGC CTG GAA AGC T-3' (FRAG 201) (SEQ. ID NO: 211)
5'- GGC CTG GAA AGC-3' (FRAG 202) (SEQ. ID NO: 212)
5'- GGC CTG GAA AG-3' (FRAG 203) (SEQ. ID NO: 213)
5'- GGC CTG GAA A-3' (FRAG 204) (SEQ. ID NO: 214)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 205) (SEQ. ID NO: 215)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 206) (SEQ. ID NO: 216)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 207) (SEQ. ID NO: 217)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 208) (SEQ. ID NO: 218)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CT-3' (FRAG 209) (SEQ. ID NO: 219)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG C-3' (FRAG 210) (SEQ. ID NO: 220)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG -3' (FRAG 211) (SEQ. ID NO: 221)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AG-3' (FRAG 212) (SEQ. ID NO: 222)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC A-3' (FRAG 213) (SEQ. ID NO: 223)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC-3' (FRAG 214) (SEQ. ID NO: 224)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CA-3' (FRAG 215) (SEQ. ID NO: 225)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG C-3' (FRAG 216) (SEQ. ID NO: 226)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG -3' (FRAG 217) (SEQ. ID NO: 227)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GG-3' (FRAG 218) (SEQ. ID NO: 228)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC G-3' (FRAG 219) (SEQ. ID NO: 229)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC -3' (FRAG 220) (SEQ. ID NO: 230)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT GG -3' (FRAG 221) (SEQ. ID NO: 231)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT G -3' (FRAG 222) (SEQ. ID NO: 232)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CAT -3' (FRAG 223) (SEQ. ID NO: 233)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG CA-3' (FRAG 224) (SEQ. ID NO: 234)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG C-3' (FRAG 225) (SEQ. ID NO: 235)
5'- GC CTG GAA AGC TGA GAT GGA GGG CGG -3' (FRAG 226) (SEQ. ID NO: 236)
5'- GC CTG GAA AGC TGA GAT GGA GGG CG -3' (FRAG 227) (SEQ. ID NO: 237)
5'- GC CTG GAA AGC TGA GAT GGA GGG C -3' (FRAG 228) (SEQ. ID NO: 238)
5'- GC CTG GAA AGC TGA GAT GGA GGG -3' (FRAG 229) (SEQ. ID NO: 239)
5'- GC CTG GAA AGC TGA GAT GGA GG -3' (FRAG 230) (SEQ. ID NO: 240)
5'- GC CTG GAA AGC TGA GAT GGA G -3' (FRAG 231) (SEQ. ID NO: 241)
5'- GC CTG GAA AGC TGA GAT GGA -3' (FRAG 232) (SEQ. ID NO: 242)
5'- GC CTG GAA AGC TGA GAT GG -3' (FRAG 233) (SEQ. ID NO: 243)
5'- GC CTG GAA AGC TGA GAT G -3' (FRAG 234) (SEQ. ID NO: 244)
5'- GC CTG GAA AGC TGA GAT -3' (FRAG 235) (SEQ. ID NO: 245)
5'- GC CTG GAA AGC TGA GA-3' (FRAG 236) (SEQ. ID NO: 246)
5'- GC CTG GAA AGC TGA G-3' (FRAG 237) (SEQ. ID NO: 247)
5'- GC CTG GAA AGC TGA-3' (FRAG 238) (SEQ. ID NO: 248)
5'- GC CTG GAA AGC TG-3' (FRAG 239) (SEQ. ID NO: 249)
5'- GC CTG GAA AGC T-3' (FRAG 240) (SEQ. ID NO: 250)
5'- GC CTG GAA AGC-3' (FRAG 241) (SEQ. ID NO: 251)
5'- GC CTG GAA AG-3' (FRAG 242) (SEQ. ID NO: 252)
5'- C CTG GAA AGC TGA GAT GG A GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 243) (SEQ. ID NO: 253)
5'- C CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 244) (SEQ. ID NO: 254)
5'- C CTG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 245) (SEQ. ID NO: 255)

- 5'- CTG GAA AGC TGA GAT GG -3' (FRAG 308) (SEQ. ID NO: 318)
5'- CTG GAA AGC TGA GAT G -3' (FRAG 309) (SEQ. ID NO: 319)
5'- CTG GAA AGC TGA GAT -3' (FRAG 310) (SEQ. ID NO: 320)
5'- CTG GAA AGC TGA GA-3' (FRAG 311) (SEQ. ID NO: 321)
5 5'- CTG GAA AGC TGA G-3' (FRAG 312) (SEQ. ID NO: 322)
5'- CTG GAA AGC TGA -3' (FRAG 313) (SEQ. ID NO: 323)
5'- CTG GAA AGC TG 3' (FRAG 314) (SEQ. ID NO: 324)
5'- CTG GAA AGC T-3' (FRAG 315) (SEQ. ID NO: 325)
5'- TG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 316) (SEQ. ID NO: 326)
10 5'- TG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 317) (SEQ. ID NO: 327)
5'- TG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 318) (SEQ. ID NO: 328)
5'- TG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 319) (SEQ. ID NO: 329)
5'- TG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CT-3' (FRAG 320) (SEQ. ID NO: 330)
5'- TG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG C-3' (FRAG 321) (SEQ. ID NO: 331)
15 5'- TG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG -3' (FRAG 322) (SEQ. ID NO: 332)
5'- TG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC AG-3' (FRAG 323) (SEQ. ID NO: 333)
5'- TG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC A-3' (FRAG 324) (SEQ. ID NO: 334)
5'- TG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CAC-3' (FRAG 325) (SEQ. ID NO: 335)
5'- TG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG CA-3' (FRAG 326) (SEQ. ID NO: 336)
20 5'- TG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG C-3' (FRAG 327) (SEQ. ID NO: 337)
5'- TG GAA AGC TGA GAT GGA GGG CGG CAT GGC GGG -3' (FRAG 328) (SEQ. ID NO: 338)
5'- TG GAA AGC TGA GAT GGA GGG CGG CAT GGC GG-3' (FRAG 329) (SEQ. ID NO: 339)
5'- TG GAA AGC TGA GAT GGA GGG CGG CAT GGC G-3' (FRAG 330) (SEQ. ID NO: 340)
5'- TG GAA AGC TGA GAT GGA GGG CGG CAT GGC -3' (FRAG 331) (SEQ. ID NO: 341)
25 5'- TG GAA AGC TGA GAT GGA GGG CGG CAT GG -3' (FRAG 332) (SEQ. ID NO: 342)
5'- TG GAA AGC TGA GAT GGA GGG CGG CAT G -3' (FRAG 333) (SEQ. ID NO: 343)
5'- TG GAA AGC TGA GAT GGA GGG CGG CAT -3' (FRAG 334) (SEQ. ID NO: 344)
5'- TG GAA AGC TGA GAT GGA GGG CGG CA-3' (FRAG 335) (SEQ. ID NO: 345)
5'- TG GAA AGC TGA GAT GGA GGG CGG C-3' (FRAG 336) (SEQ. ID NO: 346)
30 5'- TG GAA AGC TGA GAT GGA GGG CGG -3' (FRAG 337) (SEQ. ID NO: 347)
5'- TG GAA AGC TGA GAT GGA GGG CG -3' (FRAG 338) (SEQ. ID NO: 348)
5'- TG GAA AGC TGA GAT GGA GGG C -3' (FRAG 339) (SEQ. ID NO: 349)
5'- TG GAA AGC TGA GAT GGA GGG -3' (FRAG 340) (SEQ. ID NO: 350)
5'- TG GAA AGC TGA GAT GGA GG -3' (FRAG 341) (SEQ. ID NO: 351)
35 5'- TG GAA AGC TGA GAT GGA G -3' (FRAG 342) (SEQ. ID NO: 352)
5'- TG GAA AGC TGA GAT GGA -3' (FRAG 343) (SEQ. ID NO: 353)
5'- TG GAA AGC TGA GAT GG -3' (FRAG 344) (SEQ. ID NO: 354)
5'- TG GAA AGC TGA GAT G -3' (FRAG 345) (SEQ. ID NO: 355)
5'- TG GAA AGC TGA GAT -3' (FRAG 346) (SEQ. ID NO: 356)
40 5'- TG GAA AGC TGA GA-3' (FRAG 347) (SEQ. ID NO: 357)
5'- TG GAA AGC TGA G-3' (FRAG 348) (SEQ. ID NO: 358)
5'- TG GAA AGC TGA 3' (FRAG 349) (SEQ. ID NO: 359)
5'- TG GAA AGC TG-3' (FRAG 350) (SEQ. ID NO: 360)
5'- G GAA AGC TGA CAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 351) (SEQ. ID NO: 361)
45 5'- G GAA AGC TGA CAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 352) (SEQ. ID NO: 362)
5'- G GAA AGC TGA CAT GGA GGG CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 353) (SEQ. ID NO: 363)
5'- G GAA AGC TGA CAT GGA GGG CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 354) (SEQ. ID NO: 364)
5'- G GAA AGC TGA CAT GGA GGG CGG CAT GGC GGG CAC AGG CT-3' (FRAG 355) (SEQ. ID NO: 365)
5'- G GAA AGC TGA CAT GGA GGG CGG CAT GGC GGG CAC AGG C-3' (FRAG 356) (SEQ. ID NO: 366)
50 5'- G GAA AGC TGA CAT GGA GGG CGG CAT GGC GGG CAC AGG -3' (FRAG 357) (SEQ. ID NO: 367)
5'- G GAA AGC TGA CAT GGA GGG CGG CAT GGC GGG CAC AG-3' (FRAG 358) (SEQ. ID NO: 368)
5'- G GAA AGC TGA CAT GGA GGG CGG CAT GGC GGG CAC A-3' (FRAG 359) (SEQ. ID NO: 369)
5'- G GAA AGC TGA CAT GGA GGG CGG CAT GGC GGG CAC-3' (FRAG 360) (SEQ. ID NO: 370)
5'- G GAA AGC TGA CAT GGA GGG CGG CAT GGC GGG CA-3' (FRAG 361) (SEQ. ID NO: 371)
55 5'- G GAA AGC TGA CAT GGA GGG CGG CAT GGC GGG C-3' (FRAG 362) (SEQ. ID NO: 372)
5'- G GAA AGC TGA CAT GGA GGG CGG CAT GGC GGG -3' (FRAG 363) (SEQ. ID NO: 373)
5'- G GAA AGC TGA CAT GGA GGG CGG CAT GGC GG-3' (FRAG 364) (SEQ. ID NO: 374)
5'- G GAA AGC TGA CAT GGA GGG CGG CAT GGC G-3' (FRAG 365) (SEQ. ID NO: 375)
5'- G GAA AGC TGA CAT GGA GGG CGG CAT GGC -3' (FRAG 366) (SEQ. ID NO: 376)
60 5'- G GAA AGC TGA CAT GGA GGG CGG CAT GG -3' (FRAG 367) (SEQ. ID NO: 377)
5'- G GAA AGC TGA CAT GGA GGG CGG CAT G -3' (FRAG 368) (SEQ. ID NO: 378)
5'- G GAA AGC TGA CAT GGA GGG CGG CAT -3' (FRAG 369) (SEQ. ID NO: 379)

- 5'- G GAA AGC TGA C|AT GGA GGG CGG CA-3' (FRAG 370) (SEQ. ID NO: 380)
 5'- G GAA AGC TGA C|AT GGA GGG CGG C-3' (FRAG 371) (SEQ. ID NO: 381)
 5'- G GAA AGC TGA C|AT GGA GGG CGG -3' (FRAG 372) (SEQ. ID NO: 382)
 5'- G GAA AGC TGA C|AT GGA GGG CG -3' (FRAG 373) (SEQ. ID NO: 383)
 5 5'- G GAA AGC TGA C|AT GGA GGG C -3' (FRAG 374) (SEQ. ID NO: 384)
 5'- G GAA AGC TGA C|AT GGA GGG -3' (FRAG 375) (SEQ. ID NO: 385)
 5'- G GAA AGC TGA C|AT GGA GG -3' (FRAG 376) (SEQ. ID NO: 386)
 5'- G GAA AGC TGA C|AT GGA G -3' (FRAG 377) (SEQ. ID NO: 387)
 5'- G GAA AGC TGA C|AT GGA -3' (FRAG 378) (SEQ. ID NO: 388)
 10 5'- G GAA AGC TGA C|AT GG -3' (FRAG 379) (SEQ. ID NO: 389)
 5'- G GAA AGC TGA C|AT G -3' (FRAG 380) (SEQ. ID NO: 390)
 5'- G GAA AGC TGA C|AT -3' (FRAG 381) (SEQ. ID NO: 391)
 5'- G GAA AGC TGA C|A-3' (FRAG 382) (SEQ. ID NO: 392)
 5'- G GAA AGC TGA C|-3' (FRAG 383) (SEQ. ID NO: 393)
 15 5'- G GAA AGC TGA -3' (FRAG 384) (SEQ. ID NO: 394)
 5'- GAA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 385) (SEQ. ID NO: 395)
 5'- GAA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 386) (SEQ. ID NO: 396)
 5'- GAA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 387) (SEQ. ID NO: 397)
 5'- GAA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 388) (SEQ. ID NO: 398)
 20 5'- GAA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC AGG CT-3' (FRAG 389) (SEQ. ID NO: 399)
 5'- GAA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC AGG C-3' (FRAG 390) (SEQ. ID NO: 400)
 5'- GAA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC AGG -3' (FRAG 391) (SEQ. ID NO: 401)
 5'- GAA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC AG-3' (FRAG 392) (SEQ. ID NO: 402)
 5'- GAA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC A-3' (FRAG 393) (SEQ. ID NO: 403)
 25 5'- GAA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC-3' (FRAG 394) (SEQ. ID NO: 404)
 5'- GAA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CA-3' (FRAG 395) (SEQ. ID NO: 405)
 5'- GAA AGC TGA G|AT GGA GGG CGG CAT GGC GGG C-3' (FRAG 396) (SEQ. ID NO: 406)
 5'- GAA AGC TGA G|AT GGA GGG CGG CAT GGC GGG -3' (FRAG 397) (SEQ. ID NO: 407)
 5'- GAA AGC TGA G|AT GGA GGG CGG CAT GGC GG-3' (FRAG 398) (SEQ. ID NO: 408)
 30 5'- GAA AGC TGA G|AT GGA GGG CGG CAT GGC G-3' (FRAG 399) (SEQ. ID NO: 409)
 5'- GAA AGC TGA G|AT GGA GGG CGG CAT GGC -3' (FRAG 400) (SEQ. ID NO: 410)
 5'- GAA AGC TGA G|AT GGA GGG CGG CAT GG -3' (FRAG 401) (SEQ. ID NO: 411)
 5'- GAA AGC TGA G|AT GGA GGG CGG CAT G -3' (FRAG 402) (SEQ. ID NO: 412)
 5'- GAA AGC TGA G|AT GGA GGG CGG CAT -3' (FRAG 403) (SEQ. ID NO: 413)
 35 5'- GAA AGC TGA G|AT GGA GGG CGG CA-3' (FRAG 404) (SEQ. ID NO: 414)
 5'- GAA AGC TGA G|AT GGA GGG CGG C-3' (FRAG 405) (SEQ. ID NO: 415)
 5'- GAA AGC TGA G|AT GGA GGG CGG -3' (FRAG 406) (SEQ. ID NO: 416)
 5'- GAA AGC TGA G|AT GGA GGG CG -3' (FRAG 407) (SEQ. ID NO: 417)
 5'- GAA AGC TGA G|AT GGA GGG C -3' (FRAG 408) (SEQ. ID NO: 418)
 40 5'- GAA AGC TGA G|AT GGA GGG -3' (FRAG 409) (SEQ. ID NO: 419)
 5'- GAA AGC TGA G|AT GGA GG -3' (FRAG 410) (SEQ. ID NO: 420)
 5'- GAA AGC TGA G|AT GGA G -3' (FRAG 411) (SEQ. ID NO: 421)
 5'- GAA AGC TGA G|AT GGA -3' (FRAG 412) (SEQ. ID NO: 422)
 5'- GAA AGC TGA G|AT GG -3' (FRAG 413) (SEQ. ID NO: 423)
 45 5'- GAA AGC TGA G|AT G -3' (FRAG 414) (SEQ. ID NO: 424)
 5'- GAA AGC TGA G|AT -3' (FRAG 415) (SEQ. ID NO: 425)
 5'- GAA AGC TGA G|-3' (FRAG 416) (SEQ. ID NO: 426)
 5'- GAA AGC TGA G-3' (FRAG 417) (SEQ. ID NO: 427)
 5'- AA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 418) (SEQ. ID NO: 428)
 50 5'- AA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 419) (SEQ. ID NO: 429)
 5'- AA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 420) (SEQ. ID NO: 430)
 5'- AA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 421) (SEQ. ID NO: 431)
 5'- AA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC AGG CT-3' (FRAG 422) (SEQ. ID NO: 432)
 5'- AA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC AGG C-3' (FRAG 423) (SEQ. ID NO: 433)
 55 5'- AA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC AGG -3' (FRAG 424) (SEQ. ID NO: 434)
 5'- AA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC AG-3' (FRAG 425) (SEQ. ID NO: 435)
 5'- AA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC A-3' (FRAG 426) (SEQ. ID NO: 436)
 5'- AA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CAC-3' (FRAG 427) (SEQ. ID NO: 437)
 5'- AA AGC TGA G|AT GGA GGG CGG CAT GGC GGG CA-3' (FRAG 428) (SEQ. ID NO: 438)
 60 5'- AA AGC TGA G|AT GGA GGG CGG CAT GGC GGG C-3' (FRAG 429) (SEQ. ID NO: 439)
 5'- AA AGC TGA G|AT GGA GGG CGG CAT GGC GGG -3' (FRAG 430) (SEQ. ID NO: 440)
 5'- AA AGC TGA G|AT GGA GGG CGG CAT GGC GG-3' (FRAG 431) (SEQ. ID NO: 441)

- 5'- AA AGC TGA GAT' GGA GGG CGG CAT GGC G-3' (FRAG 432) (SEQ. ID NO: 442)
5'- AA AGC TGA GAT' GGA GGG CGG CAT GGC -3' (FRAG 433) (SEQ. ID NO: 443)
5'- AA AGC TGA GAT' GGA GGG CGG CAT GG -3' (FRAG 434) (SEQ. ID NO: 444)
5'- AA AGC TGA GAT' GGA GGG CGG CAT G -3' (FRAG 435) (SEQ. ID NO: 445)
5 5'- AA AGC TGA GAT' GGA GGG CGG CAT -3' (FRAG 436) (SEQ. ID NO: 446)
5'- AA AGC TGA GAT' GGA GGG CGG CA-3' (FRAG 437) (SEQ. ID NO: 447)
5'- AA AGC TGA GAT' GGA GGG CGG C-3' (FRAG 438) (SEQ. ID NO: 448)
5'- AA AGC TGA GAT' GGA GGG CGG -3' (FRAG 439) (SEQ. ID NO: 449)
5'- AA AGC TGA GAT' GGA GGG CG -3' (FRAG 440) (SEQ. ID NO: 450)
10 5'- AA AGC TGA GAT' GGA GGG C -3' (FRAG 441) (SEQ. ID NO: 451)
5'- AA AGC TGA GAT' GGA GGG -3' (FRAG 442) (SEQ. ID NO: 452)
5'- AA AGC TGA GAT' GGA GG -3' (FRAG 443) (SEQ. ID NO: 453)
5'- AA AGC TGA GAT' GGA G -3' (FRAG 444) (SEQ. ID NO: 454)
5'- AA AGC TGA GAT' GGA -3' (FRAG 445) (SEQ. ID NO: 455)
15 5'- AA AGC TGA GAT' GG -3' (FRAG 446) (SEQ. ID NO: 456)
5'- AA AGC TGA GAT' G -3' (FRAG 447) (SEQ. ID NO: 457)
5'- AA AGC TGA GAT' -3' (FRAG 448) (SEQ. ID NO: 458)
5'- AA AGC TGA GA-3' (FRAG 449) (SEQ. ID NO: 459)
5'- A AGC TGA GAT' GGA GGG CG G CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 450) (SEQ. ID NO: 460)
20 5'- A AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 451) (SEQ. ID NO: 461)
5'- A AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 452) (SEQ. ID NO: 462)
5'- A AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 453) (SEQ. ID NO: 463)
5'- A AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC AGG CT-3' (FRAG 454) (SEQ. ID NO: 464)
5'- A AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC AGG C-3' (FRAG 455) (SEQ. ID NO: 465)
25 5'- A AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC AGG -3' (FRAG 456) (SEQ. ID NO: 466)
5'- A AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC AG-3' (FRAG 457) (SEQ. ID NO: 467)
5'- A AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC A-3' (FRAG 458) (SEQ. ID NO: 468)
5'- A AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC-3' (FRAG 459) (SEQ. ID NO: 469)
5'- A AGC TGA GAT' GGA GGG CGG CAT GGC GGG CA-3' (FRAG 460) (SEQ. ID NO: 470)
30 5'- A AGC TGA GAT' GGA GGG CGG CAT GGC GGG C-3' (FRAG 461) (SEQ. ID NO: 471)
5'- A AGC TGA GAT' GGA GGG CGG CAT GGC GGG -3' (FRAG 462) (SEQ. ID NO: 472)
5'- A AGC TGA GAT' GGA GGG CGG CAT GGC GG-3' (FRAG 463) (SEQ. ID NO: 473)
5'- A AGC TGA GAT' GGA GGG CGG CAT GGC G-3' (FRAG 464) (SEQ. ID NO: 474)
5'- A AGC TGA GAT' GGA GGG CGG CAT GGC -3' (FRAG 465) (SEQ. ID NO: 475)
35 5'- A AGC TGA GAT' GGA GGG CGG CAT GG -3' (FRAG 466) (SEQ. ID NO: 476)
5'- A AGC TGA GAT' GGA GGG CGG CAT G -3' (FRAG 467) (SEQ. ID NO: 477)
5'- A AGC TGA GAT' GGA GGG CGG CAT -3' (FRAG 468) (SEQ. ID NO: 478)
5'- A AGC TGA GAT' GGA GGG CGG CA-3' (FRAG 469) (SEQ. ID NO: 479)
5'- A AGC TGA GAT' GGA GGG CGG C-3' (FRAG 470) (SEQ. ID NO: 480)
40 5'- A AGC TGA GAT' GGA GGG CGG -3' (FRAG 471) (SEQ. ID NO: 481)
5'- A AGC TGA GAT' GGA GGG CG -3' (FRAG 472) (SEQ. ID NO: 482)
5'- A AGC TGA GAT' GGA GGG C -3' (FRAG 473) (SEQ. ID NO: 483)
5'- A AGC TGA GAT' GGA GGG -3' (FRAG 474) (SEQ. ID NO: 484)
5'- A AGC TGA GAT' GGA GG -3' (FRAG 475) (SEQ. ID NO: 485)
45 5'- A AGC TGA GAT' GGA G -3' (FRAG 476) (SEQ. ID NO: 486)
5'- A AGC TGA GAT' GGA -3' (FRAG 477) (SEQ. ID NO: 487)
5'- A AGC TGA GAT' GG -3' (FRAG 478) (SEQ. ID NO: 488)
5'- A AGC TGA GAT' G -3' (FRAG 479) (SEQ. ID NO: 489)
5'- A AGC TGA GAT' -3' (FRAG 480) (SEQ. ID NO: 490)
50 5'- AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 481) (SEQ. ID NO: 491)
5'- AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 482) (SEQ. ID NO: 492)
5'- AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 483) (SEQ. ID NO: 493)
5'- AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 484) (SEQ. ID NO: 494)
5'- AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC AGG CT-3' (FRAG 485) (SEQ. ID NO: 495)
55 5'- AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC AGG C-3' (FRAG 486) (SEQ. ID NO: 496)
5'- AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC AGG -3' (FRAG 487) (SEQ. ID NO: 497)
5'- AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC AG-3' (FRAG 488) (SEQ. ID NO: 498)
5'- AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC A-3' (FRAG 489) (SEQ. ID NO: 499)
5'- AGC TGA GAT' GGA GGG CGG CAT GGC GGG CAC-3' (FRAG 490) (SEQ. ID NO: 500)
60 5'- AGC TGA GAT' GGA GGG CGG CAT GGC GGG CA-3' (FRAG 491) (SEQ. ID NO: 501)
5'- AGC TGA GAT' GGA GGG CGG CAT GGC GGG C-3' (FRAG 492) (SEQ. ID NO: 502)
5'- AGC TGA GAT' GGA GGG CGG CAT GGC GGG -3' (FRAG 493) (SEQ. ID NO: 503)

- 5'- AGC TGA GAT GGA GGG CGG CAT GGC GG-3' (FRAG 494) (SEQ. ID NO: 504)
5'- AGC TGA GAT GGA GGG CGG CAT GGC G-3' (FRAG 495) (SEQ. ID NO: 505)
5'- AGC TGA GAT GGA GGG CGG CAT GGC -3' (FRAG 496) (SEQ. ID NO: 506)
5'- AGC TGA GAT GGA GGG CGG CAT GG -3' (FRAG 497) (SEQ. ID NO: 507)
5 5'- AGC TGA GAT GGA GGG CGG CAT G -3' (FRAG 498) (SEQ. ID NO: 508)
5'- AGC TGA GAT GGA GGG CGG CAT -3' (FRAG 499) (SEQ. ID NO: 509)
5'- AGC TGA GAT GGA GGG CGG CA-3' (FRAG 500) (SEQ. ID NO: 510)
5'- AGC TGA GAT GGA GGG CGG C-3' (FRAG 501) (SEQ. ID NO: 511)
5'- AGC TGA GAT GGA GGG CGG -3' (FRAG 502) (SEQ. ID NO: 512)
10 5'- AGC TGA GAT GGA GGG CG -3' (FRAG 503) (SEQ. ID NO: 513)
5'- AGC TGA GAT GGA GGG C -3' (FRAG 504) (SEQ. ID NO: 514)
5'- AGC TGA GAT GGA GGG -3' (FRAG 505) (SEQ. ID NO: 515)
5'- AGC TGA GAT GGA GG -3' (FRAG 506) (SEQ. ID NO: 516)
5'- AGC TGA GAT GGA G -3' (FRAG 507) (SEQ. ID NO: 517)
15 5'- AGC TGA GAT GGA -3' (FRAG 508) (SEQ. ID NO: 518)
5'- AGC TGA GAT GG -3' (FRAG 509) (SEQ. ID NO: 519)
5'- AGC TGA GAT G -3' (FRAG 510) (SEQ. ID NO: 520)
5'- GC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 511) (SEQ. ID NO: 521)
5'- GC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 512) (SEQ. ID NO: 522)
20 5'- GC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 513) (SEQ. ID NO: 523)
5'- GC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 514) (SEQ. ID NO: 524)
5'- GC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CT-3' (FRAG 515) (SEQ. ID NO: 525)
5'- GC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG C-3' (FRAG 516) (SEQ. ID NO: 526)
5'- GC TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG -3' (FRAG 517) (SEQ. ID NO: 527)
25 5'- GC TGA GAT GGA GGG CGG CAT GGC GGG CAC AG-3' (FRAG 518) (SEQ. ID NO: 528)
5'- GC TGA GAT GGA GGG CGG CAT GGC GGG CAC A-3' (FRAG 519) (SEQ. ID NO: 529)
5'- GC TGA GAT GGA GGG CGG CAT GGC GGG CAC-3' (FRAG 520) (SEQ. ID NO: 530)
5'- GC TGA GAT GGA GGG CGG CAT GGC GGG CA-3' (FRAG 521) (SEQ. ID NO: 531)
5'- GC TGA GAT GGA GGG CGG CAT GGC GGG C-3' (FRAG 522) (SEQ. ID NO: 532)
30 5'- GC TGA GAT GGA GGG CGG CAT GGC GGG -3' (FRAG 523) (SEQ. ID NO: 533)
5'- GC TGA GAT GGA GGG CGG CAT GGC GG-3' (FRAG 524) (SEQ. ID NO: 534)
5'- GC TGA GAT GGA GGG CGG CAT GGC G-3' (FRAG 525) (SEQ. ID NO: 535)
5'- GC TGA GAT GGA GGG CGG CAT GGC -3' (FRAG 526) (SEQ. ID NO: 536)
5'- GC TGA GAT GGA GGG CGG CAT GG -3' (FRAG 527) (SEQ. ID NO: 537)
35 5'- GC TGA GAT GGA GGG CGG CAT G -3' (FRAG 528) (SEQ. ID NO: 538)
5'- GC TGA GAT GGA GGG CGG CAT -3' (FRAG 529) (SEQ. ID NO: 539)
5'- GC TGA GAT GGA GGG CGG CA-3' (FRAG 530) (SEQ. ID NO: 540)
5'- GC TGA GAT GGA GGG CGG C-3' (FRAG 531) (SEQ. ID NO: 541)
5'- GC TGA GAT GGA GGG CGG -3' (FRAG 532) (SEQ. ID NO: 542)
40 5'- GC TGA GAT GGA GGG CG -3' (FRAG 533) (SEQ. ID NO: 543)
5'- GC TGA GAT GGA GGG C -3' (FRAG 534) (SEQ. ID NO: 544)
5'- GC TGA GAT GGA GGG -3' (FRAG 535) (SEQ. ID NO: 545)
5'- GC TGA GAT GGA GG -3' (FRAG 536) (SEQ. ID NO: 546)
5'- GC TGA GAT GGA G -3' (FRAG 537) (SEQ. ID NO: 547)
45 5'- GC TGA GAT GGA -3' (FRAG 538) (SEQ. ID NO: 548)
5'- GC TGA GAT GG -3' (FRAG 539) (SEQ. ID NO: 549)
5'- C TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 540) (SEQ. ID NO: 550)
5'- C TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 541) (SEQ. ID NO: 551)
5'- C TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 542) (SEQ. ID NO: 552)
50 5'- C TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 543) (SEQ. ID NO: 553)
5'- C TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG CT-3' (FRAG 544) (SEQ. ID NO: 554)
5'- C TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG C-3' (FRAG 545) (SEQ. ID NO: 555)
5'- C TGA GAT GGA GGG CGG CAT GGC GGG CAC AGG -3' (FRAG 546) (SEQ. ID NO: 556)
5'- C TGA GAT GGA GGG CGG CAT GGC GGG CAC AG-3' (FRAG 547) (SEQ. ID NO: 557)
55 5'- C TGA GAT GGA GGG CGG CAT GGC GGG CAC A-3' (FRAG 548) (SEQ. ID NO: 558)
5'- C TGA GAT GGA GGG CGG CAT GGC GGG CAC-3' (FRAG 549) (SEQ. ID NO: 559)
5'- C TGA GAT GGA GGG CGG CAT GGC GGG CA-3' (FRAG 550) (SEQ. ID NO: 560)
5'- C TGA GAT GGA GGG CGG CAT GGC GGG C-3' (FRAG 551) (SEQ. ID NO: 561)
5'- C TGA GAT GGA GGG CGG CAT GGC GGG -3' (FRAG 552) (SEQ. ID NO: 562)
60 5'- C TGA GAT GGA GGG CGG CAT GGC GG-3' (FRAG 553) (SEQ. ID NO: 563)
5'- C TGA GAT GGA GGG CGG CAT GGC G-3' (FRAG 554) (SEQ. ID NO: 564)
5'- C TGA GAT GGA GGG CGG CAT GGC -3' (FRAG 555) (SEQ. ID NO: 565)

- 5'- C TGA GAT GGA GGG CGG CAT GG -3' (FRAG 556) (SEQ. ID NO: 566)
 5'- C TGA GAT GGA GGG CGG CAT G -3' (FRAG 557) (SEQ. ID NO: 567)
 5'- C TGA GAT GGA GGG CGG CAT -3' (FRAG 558) (SEQ. ID NO: 568)
 5'- C TGA GAT GGA GGG CGG CA-3' (FRAG 559) (SEQ. ID NO: 569)
 5 5'- C TGA GAT GGA GGG CGG C-3' (FRAG 560) (SEQ. ID NO: 570)
 5'- C TGA GAT GGA GGG CGG -3' (FRAG 561) (SEQ. ID NO: 571)
 5'- C TGA GAT GGA GGG CG -3' (FRAG 562) (SEQ. ID NO: 572)
 5'- C TGA GAT GGA GGG C -3' (FRAG 563) (SEQ. ID NO: 573)
 5'- C TGA GAT GGA GGG -3' (FRAG 564) (SEQ. ID NO: 574)
 10 5'- C TGA GAT GGA GG -3' (FRAG 565) (SEQ. ID NO: 575)
 5'- C TGA GAT GGA G -3' (FRAG 566) (SEQ. ID NO: 576)
 5'- C TGA GAT GGA -3' (FRAG 567) (SEQ. ID NO: 577)
 5'- TGA GAT GGA CGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 568) (SEQ. ID NO: 578)
 5'- TGA GAT GGA CGG CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 569) (SEQ. ID NO: 579)
 15 5'- TGA GAT GGA CGG CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 570) (SEQ. ID NO: 580)
 5'- TGA GAT GGA CGG CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 571) (SEQ. ID NO: 581)
 5'- TGA GAT GGA CGG CGG CAT GGC GGG CAC AGG CT-3' (FRAG 572) (SEQ. ID NO: 582)
 5'- TGA GAT GGA CGG CGG CAT GGC GGG CAC AGG C-3' (FRAG 573) (SEQ. ID NO: 583)
 5'- TGA GAT GGA CGG CGG CAT GGC GGG CAC AGG -3' (FRAG 574) (SEQ. ID NO: 584)
 20 5'- TGA GAT GGA GGG CGG CAT GGC GGG CAC AG-3' (FRAG 575) (SEQ. ID NO: 585)
 5'- TGA GAT GGA GGG CGG CAT GGC GGG CAC A-3' (FRAG 576) (SEQ. ID NO: 586)
 5'- TGA GAT GGA GGG CGG CAT GGC GGG CAC-3' (FRAG 577) (SEQ. ID NO: 587)
 5'- TGA GAT GGA GGG CGG CAT GGC GGG CA-3' (FRAG 578) (SEQ. ID NO: 588)
 5'- TGA GAT GGA GGG CGG CAT GGC GGG C-3' (FRAG 579) (SEQ. ID NO: 589)
 25 5'- TGA GAT GGA GGG CGG CAT GGC GGG -3' (FRAG 580) (SEQ. ID NO: 590)
 5'- TGA GAT GGA GGG CGG CAT GGC GG-3' (FRAG 581) (SEQ. ID NO: 591)
 5'- TGA GAT GGA GGG CGG CAT GGC G-3' (FRAG 582) (SEQ. ID NO: 592)
 5'- TGA GAT GGA GGG CGG CAT GGC -3' (FRAG 583) (SEQ. ID NO: 593)
 5'- TGA GAT GGA GGG CGG CAT GG -3' (FRAG 584) (SEQ. ID NO: 594)
 30 5'- TGA GAT GGA GGG CGG CAT G -3' (FRAG 585) (SEQ. ID NO: 595)
 5'- TGA GAT GGA GGG CGG CAT -3' (FRAG 586) (SEQ. ID NO: 596)
 5'- TGA GAT GGA GGG CGG CA-3' (FRAG 587) (SEQ. ID NO: 597)
 5'- TGA GAT GGA GGG CGG C-3' (FRAG 588) (SEQ. ID NO: 598)
 5'- TGA GAT GGA GGG CGG -3' (FRAG 589) (SEQ. ID NO: 599)
 35 5'- TGA GAT GGA GGG CG -3' (FRAG 590) (SEQ. ID NO: 600)
 5'- TGA GAT GGA GGG C -3' (FRAG 591) (SEQ. ID NO: 601)
 5'- TGA GAT GGA GGG -3' (FRAG 592) (SEQ. ID NO: 602)
 5'- TGA GAT GGA GG -3' (FRAG 593) (SEQ. ID NO: 603)
 5'- TGA GAT GGA G -3' (FRAG 594) (SEQ. ID NO: 604)
 40 5'- GA GAT GGA GCG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 595) (SEQ. ID NO: 605)
 5'- GA GAT GGA GCG CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 596) (SEQ. ID NO: 606)
 5'- GA GAT GGA GCG CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 597) (SEQ. ID NO: 607)
 5'- GA GAT GGA GCG CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 598) (SEQ. ID NO: 608)
 5'- GA GAT GGA GCG CGG CAT GGC GGG CAC AGG CT-3' (FRAG 599) (SEQ. ID NO: 609)
 45 5'- GA GAT GGA GCG CGG CAT GGC GGG CAC AGG C-3' (FRAG 600) (SEQ. ID NO: 610)
 5'- GA GAT GGA GCG CGG CAT GGC GGG CAC AGG -3' (FRAG 601) (SEQ. ID NO: 611)
 5'- GA GAT GGA GCG CGG CAT GGC GGG CAC AG-3' (FRAG 602) (SEQ. ID NO: 612)
 5'- GA GAT GGA GCG CGG CAT GGC GGG CAC A-3' (FRAG 603) (SEQ. ID NO: 613)
 5'- GA GAT GGA GCG CGG CAT GGC GGG CAC-3' (FRAG 604) (SEQ. ID NO: 614)
 50 5'- GA GAT GGA GCG CGG CAT GGC GGG CA-3' (FRAG 605) (SEQ. ID NO: 615)
 5'- GA GAT GGA GCG CGG CAT GGC GGG C-3' (FRAG 606) (SEQ. ID NO: 616)
 5'- GA GAT GGA GCG CGG CAT GGC GGG -3' (FRAG 607) (SEQ. ID NO: 617)
 5'- GA GAT GGA GCG CGG CAT GGC GG-3' (FRAG 608) (SEQ. ID NO: 618)
 5'- GA GAT GGA GCG CGG CAT GGC G-3' (FRAG 609) (SEQ. ID NO: 619)
 55 5'- GA GAT GGA GCG CGG CAT GGC -3' (FRAG 610) (SEQ. ID NO: 620)
 5'- GA GAT GGA GCG CGG CAT GG -3' (FRAG 611) (SEQ. ID NO: 621)
 5'- GA GAT GGA GCG CGG CAT G -3' (FRAG 612) (SEQ. ID NO: 622)
 5'- GA GAT GGA GCG CGG CAT -3' (FRAG 613) (SEQ. ID NO: 623)
 5'- GA GAT GGA GCG CGG CA-3' (FRAG 614) (SEQ. ID NO: 624)
 60 5'- GA GAT GGA GCG CGG C-3' (FRAG 615) (SEQ. ID NO: 625)
 5'- GA GAT GGA GCG CGG -3' (FRAG 616) (SEQ. ID NO: 626)
 5'- GA GAT GGA GCG CG -3' (FRAG 617) (SEQ. ID NO: 627)

5'- GA GAT GGA GCG C -3' (FRAG 618) (SEQ. ID NO: 628)
 5'- GA GAT GGA GCG -3' (FRAG 619) (SEQ. ID NO: 629)
 5'- GA GAT GGA GCG -3' (FRAG 620) (SEQ. ID NO: 630)
 5'- A GAT GGA GGC CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 621) (SEQ. ID NO: 631)
 5 5'- A GAT GGA GGC CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 622) (SEQ. ID NO: 632)
 5'- A GAT GGA GGC CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 623) (SEQ. ID NO: 633)
 5'- A GAT GGA GGC CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 624) (SEQ. ID NO: 634)
 5'- A GAT GGA GGC CGG CAT GGC GGG CAC AGG CT-3' (FRAG 625) (SEQ. ID NO: 635)
 5'- A GAT GGA GGC CGG CAT GGC GGG CAC AGG C-3' (FRAG 626) (SEQ. ID NO: 636)
 10 5'- A GAT GGA GGC CGG CAT GGC GGG CAC AGG -3' (FRAG 627) (SEQ. ID NO: 637)
 5'- A GAT GGA GGC CGG CAT GGC GGG CAC AG-3' (FRAG 628) (SEQ. ID NO: 638)
 5'- A GAT GGA GGC CGG CAT GGC GGG CAC A-3' (FRAG 629) (SEQ. ID NO: 639)
 5'- A GAT GGA GGC CGG CAT GGC GGG CAC-3' (FRAG 630) (SEQ. ID NO: 640)
 5'- A GAT GGA GGC CGG CAT GGC GGG CA-3' (FRAG 631) (SEQ. ID NO: 641)
 15 5'- A GAT GGA GGC CGG CAT GGC GGG C-3' (FRAG 632) (SEQ. ID NO: 642)
 5'- A GAT GGA GGC CGG CAT GGC GGG -3' (FRAG 633) (SEQ. ID NO: 643)
 5'- A GAT GGA GGC CGG CAT GGC GG-3' (FRAG 634) (SEQ. ID NO: 644)
 5'- A GAT GGA GGC CGG CAT GGC G-3' (FRAG 635) (SEQ. ID NO: 645)
 5'- A GAT GGA GGC CGG CAT GGC -3' (FRAG 636) (SEQ. ID NO: 646)
 20 5'- A GAT GGA GGC CGG CAT GG -3' (FRAG 637) (SEQ. ID NO: 647)
 5'- A GAT GGA GGC CGG CAT G -3' (FRAG 638) (SEQ. ID NO: 648)
 5'- A GAT GGA GGC CGG CAT -3' (FRAG 639) (SEQ. ID NO: 649)
 5'- A GAT GGA GGC CGG CA-3' (FRAG 640) (SEQ. ID NO: 650)
 5'- A GAT GGA GGC CGG C-3' (FRAG 641) (SEQ. ID NO: 651)
 25 5'- A GAT GGA GGC CGG -3' (FRAG 642) (SEQ. ID NO: 652)
 5'- A GAT GGA GGC CG -3' (FRAG 643) (SEQ. ID NO: 653)
 5'- A GAT GGA GGC C -3' (FRAG 644) (SEQ. ID NO: 654)
 5'- A GAT GGA GGC -3' (FRAG 645) (SEQ. ID NO: 655)
 5'- GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 646) (SEQ. ID NO: 656)
 30 5'- GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 647) (SEQ. ID NO: 657)
 5'- GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 648) (SEQ. ID NO: 658)
 5'- GAT GGA GGG CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 649) (SEQ. ID NO: 659)
 5'- GAT GGA GGG CGG CAT GGC GGG CAC AGG CT-3' (FRAG 650) (SEQ. ID NO: 660)
 5'- GAT GGA GGG CGG CAT GGC GGG CAC AGG C-3' (FRAG 651) (SEQ. ID NO: 661)
 35 5'- GAT GGA GGG CGG CAT GGC GGG CAC AGG -3' (FRAG 652) (SEQ. ID NO: 662)
 5'- GAT GGA GGG CGG CAT GGC GGG CAC AG-3' (FRAG 653) (SEQ. ID NO: 663)
 5'- GAT GGA GGG CGG CAT GGC GGG CAC A-3' (FRAG 654) (SEQ. ID NO: 664)
 5'- GAT GGA GGG CGG CAT GGC GGG CAC-3' (FRAG 655) (SEQ. ID NO: 665)
 5'- GAT GGA GGG CGG CAT GGC GGG CA-3' (FRAG 656) (SEQ. ID NO: 666)
 40 5'- GAT GGA GGG CGG CAT GGC GGG C-3' (FRAG 657) (SEQ. ID NO: 667)
 5'- GAT GGA GGG CGG CAT GGC GGG -3' (FRAG 658) (SEQ. ID NO: 668)
 5'- GAT GGA GGG CGG CAT GGC GG-3' (FRAG 659) (SEQ. ID NO: 669)
 5'- GAT GGA GGG CGG CAT GGC G-3' (FRAG 660) (SEQ. ID NO: 670)
 5'- GAT GGA GGG CGG CAT GGC -3' (FRAG 661) (SEQ. ID NO: 671)
 45 5'- GAT GGA GGG CGG CAT GG -3' (FRAG 662) (SEQ. ID NO: 672)
 5'- GAT GGA GGG CGG CAT G -3' (FRAG 663) (SEQ. ID NO: 673)
 5'- GAT GGA GGG CGG CAT -3' (FRAG 664) (SEQ. ID NO: 674)
 5'- GAT GGA GGG CGG CA-3' (FRAG 665) (SEQ. ID NO: 675)
 5'- GAT GGA GGG CGG C-3' (FRAG 666) (SEQ. ID NO: 676)
 50 5'- GAT GGA GGG CGG -3' (FRAG 667) (SEQ. ID NO: 677)
 5'- GAT GGA GGG CG -3' (FRAG 668) (SEQ. ID NO: 678)
 5'- GAT GGA GGG C -3' (FRAG 669) (SEQ. ID NO: 679)
 5'- AT GGA GGG CCG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 670) (SEQ. ID NO: 680)
 5'- AT GGA GGG CCG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 671) (SEQ. ID NO: 681)
 55 5'- AT GGA GGG CCG CAT GGC GGG CAC AGG CTG G-3' (FRAG 672) (SEQ. ID NO: 682)
 5'- AT GGA GGG CCG CAT GGC GGG CAC AGG CTG -3' (FRAG 673) (SEQ. ID NO: 683)
 5'- AT GGA GGG CCG CAT GGC GGG CAC AGG CT-3' (FRAG 674) (SEQ. ID NO: 684)
 5'- AT GGA GGG CCG CAT GGC GGG CAC AGG C-3' (FRAG 675) (SEQ. ID NO: 685)
 5'- AT GGA GGG CCG CAT GGC GGG CAC AGG -3' (FRAG 676) (SEQ. ID NO: 686)
 60 5'- AT GGA GGG CCG CAT GGC GGG CAC AG-3' (FRAG 677) (SEQ. ID NO: 687)
 5'- AT GGA GGG CCG CAT GGC GGG CAC A-3' (FRAG 678) (SEQ. ID NO: 688)
 5'- AT GGA GGG CCG CAT GGC GGG CAC-3' (FRAG 679) (SEQ. ID NO: 689)

5'- AT GGA GGG CCG CAT GGC GGG CA-3' (FRAG 680) (SEQ. ID NO: 690)
 5'- AT GGA GGG CCG CAT GGC GGG C-3' (FRAG 681) (SEQ. ID NO: 691)
 5'- AT GGA GGG CCG CAT GGC GGG -3' (FRAG 682) (SEQ. ID NO: 692)
 5'- AT GGA GGG CCG CAT GGC GG-3' (FRAG 683) (SEQ. ID NO: 693)
 5 5'- AT GGA GGG CCG CAT GGC G-3' (FRAG 684) (SEQ. ID NO: 694)
 5'- AT GGA GGG CCG CAT GGC -3' (FRAG 685) (SEQ. ID NO: 695)
 5'- AT GGA GGG CCG CAT GG -3' (FRAG 686) (SEQ. ID NO: 696)
 5'- AT GGA GGG CCG CAT G -3' (FRAG 687) (SEQ. ID NO: 697)
 5'- AT GGA GGG CCG CAT -3' (FRAG 688) (SEQ. ID NO: 698)
 10 5'- AT GGA GGG CCG CA-3' (FRAG 689) (SEQ. ID NO: 699)
 5'- AT GGA GGG CCG C-3' (FRAG 690) (SEQ. ID NO: 700)
 5'- AT GGA GGG CCG -3' (FRAG 691) (SEQ. ID NO: 701)
 5'- AT GGA GGG CG -3' (FRAG 692) (SEQ. ID NO: 702)
 5'- T GGA GGG CCG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 693) (SEQ. ID NO: 703)
 15 5'- T GGA GGG CCG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 694) (SEQ. ID NO: 704)
 5'- T GGA GGG CCG CAT GGC GGG CAC AGG CTG G-3' (FRAG 695) (SEQ. ID NO: 705)
 5'- T GGA GGG CCG CAT GGC GGG CAC AGG CTG -3' (FRAG 696) (SEQ. ID NO: 706)
 5'- T GGA GGG CCG CAT GGC GGG CAC AGG CT-3' (FRAG 697) (SEQ. ID NO: 707)
 5'- T GGA GGG CCG CAT GGC GGG CAC AGG C-3' (FRAG 698) (SEQ. ID NO: 708)
 20 5'- T GGA GGG CCG CAT GGC GGG CAC AGG -3' (FRAG 699) (SEQ. ID NO: 709)
 5'- T GGA GGG CCG CAT GGC GGG CAC AG-3' (FRAG 700) (SEQ. ID NO: 710)
 5'- T GGA GGG CCG CAT GGC GGG CAC A-3' (FRAG 701) (SEQ. ID NO: 711)
 5'- T GGA GGG CCG CAT GGC GGG CAC-3' (FRAG 702) (SEQ. ID NO: 712)
 5'- T GGA GGG CCG CAT GGC GGG CA-3' (FRAG 703) (SEQ. ID NO: 713)
 25 5'- T GGA GGG CCG CAT GGC GGG C-3' (FRAG 704) (SEQ. ID NO: 714)
 5'- T GGA GGG CCG CAT GGC GGG -3' (FRAG 705) (SEQ. ID NO: 715)
 5'- T GGA GGG CCG CAT GGC GG-3' (FRAG 706) (SEQ. ID NO: 716)
 5'- T GGA GGG CCG CAT GGC G-3' (FRAG 707) (SEQ. ID NO: 717)
 5'- T GGA GGG CCG CAT GGC -3' (FRAG 708) (SEQ. ID NO: 718)
 30 5'- T GGA GGG CCG CAT GG -3' (FRAG 709) (SEQ. ID NO: 719)
 5'- T GGA GGG CCG CAT G -3' (FRAG 710) (SEQ. ID NO: 720)
 5'- T GGA GGG CCG CAT -3' (FRAG 711) (SEQ. ID NO: 721)
 5'- T GGA GGG CCG CA-3' (FRAG 712) (SEQ. ID NO: 722)
 5'- T GGA GGG CCG C-3' (FRAG 713) (SEQ. ID NO: 723)
 35 5'- T GGA GGG CCG -3' (FRAG 714) (SEQ. ID NO: 724)
 5'- GGA GGG CCG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 715) (SEQ. ID NO: 725)
 5'- GGA GGG CCG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 716) (SEQ. ID NO: 726)
 5'- GGA GGG CCG CAT GGC GGG CAC AGG CTG G-3' (FRAG 717) (SEQ. ID NO: 727)
 5'- GGA GGG CCG CAT GGC GGG CAC AGG CTG -3' (FRAG 718) (SEQ. ID NO: 728)
 40 5'- GGA GGG CCG CAT GGC GGG CAC AGG CT-3' (FRAG 719) (SEQ. ID NO: 729)
 5'- GGA GGG CCG CAT GGC GGG CAC AGG C-3' (FRAG 720) (SEQ. ID NO: 730)
 5'- GGA GGG CCG CAT GGC GGG CAC AGG -3' (FRAG 721) (SEQ. ID NO: 731)
 5'- GGA GGG CCG CAT GGC GGG CAC AG-3' (FRAG 722) (SEQ. ID NO: 732)
 5'- GGA GGG CCG CAT GGC GGG CAC A-3' (FRAG 723) (SEQ. ID NO: 733)
 45 5'- GGA GGG CCG CAT GGC GGG CAC-3' (FRAG 724) (SEQ. ID NO: 734)
 5'- GGA GGG CCG CAT GGC GGG CA-3' (FRAG 725) (SEQ. ID NO: 735)
 5'- GGA GGG CCG CAT GGC GGG C-3' (FRAG 726) (SEQ. ID NO: 736)
 5'- GGA GGG CCG CAT GGC GGG -3' (FRAG 727) (SEQ. ID NO: 737)
 5'- GGA GGG CCG CAT GGC GG-3' (FRAG 728) (SEQ. ID NO: 738)
 50 5'- GGA GGG CCG CAT GGC G-3' (FRAG 729) (SEQ. ID NO: 739)
 5'- GGA GGG CCG CAT GGC -3' (FRAG 730) (SEQ. ID NO: 740)
 5'- GGA GGG CCG CAT GG -3' (FRAG 731) (SEQ. ID NO: 741)
 5'- GGA GGG CCG CAT G -3' (FRAG 732) (SEQ. ID NO: 742)
 5'- GGA GGG CCG CAT -3' (FRAG 733) (SEQ. ID NO: 743)
 55 5'- GGA GGG CCG CA-3' (FRAG 734) (SEQ. ID NO: 744)
 5'- GGA GGG CCG C-3' (FRAG 735) (SEQ. ID NO: 745)
 5'- GA GGG CCG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 736) (SEQ. ID NO: 746)
 5'- GA GGG CCG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 737) (SEQ. ID NO: 747)
 5'- GA GGG CCG CAT GGC GGG CAC AGG CTG G-3' (FRAG 738) (SEQ. ID NO: 748)
 60 5'- GA GGG CCG CAT GGC GGG CAC AGG CTG -3' (FRAG 739) (SEQ. ID NO: 749)
 5'- GA GGG CCG CAT GGC GGG CAC AGG CT-3' (FRAG 740) (SEQ. ID NO: 750)
 5'- GA GGG CCG CAT GGC GGG CAC AGG C-3' (FRAG 741) (SEQ. ID NO: 751)

5'- GA GGG CGG CAT GGC GGG CAC AGG -3' (FRAG 742) (SEQ. ID NO: 752)
 5'- GA GGG CGG CAT GGC GGG CAC AG-3' (FRAG 743) (SEQ. ID NO: 753)
 5'- GA GGG CGG CAT GGC GGG CAC A-3' (FRAG 744) (SEQ. ID NO: 754)
 5'- GA GGG CGG CAT GGC GGG CAC-3' (FRAG 745) (SEQ. ID NO: 755)
 5 5'- GA GGG CGG CAT GGC GGG CA-3' (FRAG 746) (SEQ. ID NO: 756)
 5'- GA GGG CGG CAT GGC GGG C-3' (FRAG 747) (SEQ. ID NO: 757)
 5'- GA GGG CGG CAT GGC GGG -3' (FRAG 748) (SEQ. ID NO: 758)
 5'- GA GGG CGG CAT GGC GG-3' (FRAG 749) (SEQ. ID NO: 759)
 5'- GA GGG CGG CAT GGC G-3' (FRAG 750) (SEQ. ID NO: 760)
 10 5'- GA GGG CGG CAT GGC -3' (FRAG 751) (SEQ. ID NO: 761)
 5'- GA GGG CGG CAT GG -3' (FRAG 752) (SEQ. ID NO: 762)
 5'- GA GGG CGG CAT G -3' (FRAG 753) (SEQ. ID NO: 763)
 5'- GA GGG CGG CAT -3' (FRAG 754) (SEQ. ID NO: 764)
 5'- GA GGG CGG CA-3' (FRAG 755) (SEQ. ID NO: 765)
 15 5'- A GGG CGG CA^{^^} GGC GGG CAC AGG CTG GGC-3' (FRAG 756) (SEQ. ID NO: 766)
 5'- A GGG CGG CA^{^^} GGC GGG CAC AGG CTG GG-3' (FRAG 757) (SEQ. ID NO: 767)
 5'- A GGG CGG CA^{^^} GGC GGG CAC AGG CTG G-3' (FRAG 758) (SEQ. ID NO: 768)
 5'- A GGG CGG CA^{^^} GGC GGG CAC AGG CTG -3' (FRAG 759) (SEQ. ID NO: 769)
 5'- A GGG CGG CA^{^^} GGC GGG CAC AGG CT-3' (FRAG 760) (SEQ. ID NO: 770)
 20 5'- A GGG CGG CA^{^^} GGC GGG CAC AGG C-3' (FRAG 761) (SEQ. ID NO: 771)
 5'- A GGG CGG CA^{^^} GGC GGG CAC AGG -3' (FRAG 762) (SEQ. ID NO: 772)
 5'- A GGG CGG CA^{^^} GGC GGG CAC AG-3' (FRAG 763) (SEQ. ID NO: 773)
 5'- A GGG CGG CA^{^^} GGC GGG CAC A-3' (FRAG 764) (SEQ. ID NO: 774)
 5'- A GGG CGG CA^{^^} GGC GGG CAC-3' (FRAG 765) (SEQ. ID NO: 775)
 25 5'- A GGG CGG CA^{^^} GGC GGG CA-3' (FRAG 766) (SEQ. ID NO: 776)
 5'- A GGG CGG CA^{^^} GGC GGG C-3' (FRAG 767) (SEQ. ID NO: 777)
 5'- A GGG CGG CA^{^^} GGC GGG -3' (FRAG 768) (SEQ. ID NO: 778)
 5'- A GGG CGG CA^{^^} GGC GG-3' (FRAG 769) (SEQ. ID NO: 779)
 5'- A GGG CGG CA^{^^} GGC G-3' (FRAG 770) (SEQ. ID NO: 780)
 30 5'- A GGG CGG CA^{^^} GGC -3' (FRAG 771) (SEQ. ID NO: 781)
 5'- A GGG CGG CA^{^^} GG -3' (FRAG 772) (SEQ. ID NO: 782)
 5'- A GGG CGG CA^{^^} G -3' (FRAG 773) (SEQ. ID NO: 783)
 5'- A GGG CGG CA^{^^} -3' (FRAG 774) (SEQ. ID NO: 784)
 5'- GGG CGG CAT 3GC GGG CAC AGG CTG GGC-3' (FRAG 775) (SEQ. ID NO: 785)
 35 5'- GGG CGG CAT 3GC GGG CAC AGG CTG GG-3' (FRAG 776) (SEQ. ID NO: 786)
 5'- GGG CGG CAT 3GC GGG CAC AGG CTG G-3' (FRAG 777) (SEQ. ID NO: 787)
 5'- GGG CGG CAT 3GC GGG CAC AGG CTG -3' (FRAG 778) (SEQ. ID NO: 788)
 5'- GGG CGG CAT 3GC GGG CAC AGG CT-3' (FRAG 779) (SEQ. ID NO: 789)
 5'- GGG CGG CAT 3GC GGG CAC AGG C-3' (FRAG 780) (SEQ. ID NO: 790)
 40 5'- GGG CGG CAT 3GC GGG CAC AGG -3' (FRAG 781) (SEQ. ID NO: 791)
 5'- GGG CGG CAT 3GC GGG CAC AG-3' (FRAG 782) (SEQ. ID NO: 792)
 5'- GGG CGG CAT 3GC GGG CAC A-3' (FRAG 783) (SEQ. ID NO: 793)
 5'- GGG CGG CAT 3GC GGG CAC-3' (FRAG 784) (SEQ. ID NO: 794)
 5'- GGG CGG CAT 3GC GGG CA-3' (FRAG 785) (SEQ. ID NO: 795)
 45 5'- GGG CGG CAT 3GC GGG C-3' (FRAG 786) (SEQ. ID NO: 796)
 5'- GGG CGG CAT 3GC GGG -3' (FRAG 787) (SEQ. ID NO: 797)
 5'- GGG CGG CAT 3GC GG-3' (FRAG 788) (SEQ. ID NO: 798)
 5'- GGG CGG CAT 3GC G-3' (FRAG 789) (SEQ. ID NO: 799)
 5'- GGG CGG CAT 3GC -3' (FRAG 790) (SEQ. ID NO: 800)
 50 5'- GGG CGG CAT 3G -3' (FRAG 791) (SEQ. ID NO: 801)
 5'- GGG CGG CAT 3 -3' (FRAG 792) (SEQ. ID NO: 802)
 5'- GG CGG CAT G3C GGG CAC AG G CTG GGC-3' (FRAG 793) (SEQ. ID NO: 803)
 5'- GG CGG CAT G3C GGG CAC AGG CTG GG-3' (FRAG 794) (SEQ. ID NO: 804)
 5'- GG CGG CAT G3C GGG CAC AGG CTG G-3' (FRAG 795) (SEQ. ID NO: 805)
 55 5'- GG CGG CAT G3C GGG CAC AGG CTG -3' (FRAG 796) (SEQ. ID NO: 806)
 5'- GG CGG CAT G3C GGG CAC AGG CT-3' (FRAG 797) (SEQ. ID NO: 807)
 5'- GG CGG CAT G3C GGG CAC AGG C-3' (FRAG 798) (SEQ. ID NO: 808)
 5'- GG CGG CAT G3C GGG CAC AGG -3' (FRAG 799) (SEQ. ID NO: 809)
 5'- GG CGG CAT G3C GGG CAC AG-3' (FRAG 800) (SEQ. ID NO: 810)
 60 5'- GG CGG CAT G3C GGG CAC A-3' (FRAG 801) (SEQ. ID NO: 811)
 5'- GG CGG CAT G3C GGG CAC-3' (FRAG 802) (SEQ. ID NO: 812)
 5'- GG CGG CAT G3C GGG CA-3' (FRAG 803) (SEQ. ID NO: 813)

5'- GG CGG CAT GGC GGG C-3' (FRAG 804) (SEQ. ID NO: 814)
5'- GG CGG CAT GGC GGG -3' (FRAG 805) (SEQ. ID NO: 815)
5'- GG CGG CAT GGC GG-3' (FRAG 806) (SEQ. ID NO: 816)
5'- GG CGG CAT GGC G-3' (FRAG 807) (SEQ. ID NO: 817)
5 5'- GG CGG CAT GGC -3' (FRAG 808) (SEQ. ID NO: 818)
5'- GG CGG CAT GG -3' (FRAG 809) (SEQ. ID NO: 819)
5'- G CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 810) (SEQ. ID NO: 820)
5'- G CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 811) (SEQ. ID NO: 821)
5'- G CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 812) (SEQ. ID NO: 822)
10 5'- G CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 813) (SEQ. ID NO: 823)
5'- G CGG CAT GGC GGG CAC AGG CT-3' (FRAG 814) (SEQ. ID NO: 824)
5'- G CGG CAT GGC GGG CAC AGG C-3' (FRAG 815) (SEQ. ID NO: 825)
5'- G CGG CAT GGC GGG CAC AGG -3' (FRAG 816) (SEQ. ID NO: 826)
5'- G CGG CAT GGC GGG CAC AG-3' (FRAG 817) (SEQ. ID NO: 827)
15 5'- G CGG CAT GGC GGG CAC A-3' (FRAG 818) (SEQ. ID NO: 828)
5'- G CGG CAT GGC GGG CAC-3' (FRAG 819) (SEQ. ID NO: 829)
5'- G CGG CAT GGC GGG CA-3' (FRAG 820) (SEQ. ID NO: 830)
5'- G CGG CAT GGC GGG C-3' (FRAG 821) (SEQ. ID NO: 831)
5'- G CGG CAT GGC GGG -3' (FRAG 822) (SEQ. ID NO: 832)
20 5'- G CGG CAT GGC GG-3' (FRAG 823) (SEQ. ID NO: 833)
5'- G CGG CAT GGC G-3' (FRAG 824) (SEQ. ID NO: 834)
5'- G CGG CAT GGC -3' (FRAG 825) (SEQ. ID NO: 835)
5'- CGG CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 826) (SEQ. ID NO: 836)
5'- CGG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 827) (SEQ. ID NO: 837)
25 5'- CGG CAT GGC GGG CAC AGG CTG G-3' (FRAG 828) (SEQ. ID NO: 838)
5'- CGG CAT GGC GGG CAC AGG CTG -3' (FRAG 829) (SEQ. ID NO: 839)
5'- CGG CAT GGC GGG CAC AGG CT-3' (FRAG 830) (SEQ. ID NO: 840)
5'- CGG CAT GGC GGG CAC AGG C-3' (FRAG 831) (SEQ. ID NO: 841)
5'- CGG CAT GGC GGG CAC AGG -3' (FRAG 832) (SEQ. ID NO: 842)
30 5'- CGG CAT GGC GGG CAC AG-3' (FRAG 833) (SEQ. ID NO: 843)
5'- CGG CAT GGC GGG CAC A-3' (FRAG 834) (SEQ. ID NO: 844)
5'- CGG CAT GGC GGG CAC-3' (FRAG 835) (SEQ. ID NO: 845)
5'- CGG CAT GGC GGG CA-3' (FRAG 836) (SEQ. ID NO: 846)
5'- CGG CAT GGC GGG C-3' (FRAG 837) (SEQ. ID NO: 847)
35 5'- CGG CAT GGC GGG -3' (FRAG 838) (SEQ. ID NO: 848)
5'- CGG CAT GGC GG-3' (FRAG 839) (SEQ. ID NO: 849)
5'- CGG CAT GGC G-3' (FRAG 840) (SEQ. ID NO: 850)
5'- GG CAT GGC GGG CAC AGG C TG GGC-3' (FRAG 841) (SEQ. ID NO: 851)
5'- GG CAT GGC GGG CAC AGG CTG GG-3' (FRAG 842) (SEQ. ID NO: 852)
40 5'- GG CAT GGC GGG CAC AGG CTG G-3' (FRAG 843) (SEQ. ID NO: 853)
5'- GG CAT GGC GGG CAC AGG CTG -3' (FRAG 844) (SEQ. ID NO: 854)
5'- GG CAT GGC GGG CAC AGG CT-3' (FRAG 845) (SEQ. ID NO: 855)
5'- GG CAT GGC GGG CAC AGG C-3' (FRAG 846) (SEQ. ID NO: 856)
5'- GG CAT GGC GGG CAC AGG -3' (FRAG 847) (SEQ. ID NO: 857)
45 5'- GG CAT GGC GGG CAC AG-3' (FRAG 848) (SEQ. ID NO: 858)
5'- GG CAT GGC GGG CAC A-3' (FRAG 849) (SEQ. ID NO: 859)
5'- GG CAT GGC GGG CAC-3' (FRAG 850) (SEQ. ID NO: 860)
5'- GG CAT GGC GGG CA-3' (FRAG 851) (SEQ. ID NO: 861)
5'- GG CAT GGC GGG C-3' (FRAG 852) (SEQ. ID NO: 862)
50 5'- GG CAT GGC GGG -3' (FRAG 853) (SEQ. ID NO: 863)
5'- GG CAT GGC GG-3' (FRAG 854) (SEQ. ID NO: 864)
5'- G CAT GGC GGG CAC AGG CTG GGC-3' (FRAG 855) (SEQ. ID NO: 865)
5'- G CAT GGC GGG CAC AGG CTG GG-3' (FRAG 856) (SEQ. ID NO: 866)
5'- G CAT GGC GGG CAC AGG CTG G-3' (FRAG 857) (SEQ. ID NO: 867)
55 5'- G CAT GGC GGG CAC AGG CTG -3' (FRAG 858) (SEQ. ID NO: 868)
5'- G CAT GGC GGG CAC AGG CT-3' (FRAG 859) (SEQ. ID NO: 869)
5'- G CAT GGC GGG CAC AGG C-3' (FRAG 860) (SEQ. ID NO: 870)
5'- G CAT GGC GGG CAC AGG -3' (FRAG 861) (SEQ. ID NO: 871)
5'- G CAT GGC GGG CAC AG-3' (FRAG 862) (SEQ. ID NO: 872)
60 5'- G CAT GGC GGG CAC A-3' (FRAG 863) (SEQ. ID NO: 873)
5'- G CAT GGC GGG CAC-3' (FRAG 864) (SEQ. ID NO: 874)
5'- G CAT GGC GGG CA-3' (FRAG 865) (SEQ. ID NO: 875)

G04010"6294550



5'- G CAT GGC GCG C-3' (FRAG 866) (SEQ. ID NO: 876)
5'- G CAT GGC GCG -3' (FRAG 867) (SEQ. ID NO: 877)
5'- CAT GGC GGC CAC AGG CTG GGC-3' (FRAG 868) (SEQ. ID NO: 878)
5'- CAT GGC GGC CAC AGG CTG GG-3' (FRAG 869) (SEQ. ID NO: 879)
5 CAT 5'- CAT GGC GGC CAC AGG CTG G-3' (FRAG 870) (SEQ. ID NO: 880)
5'- CAT GGC GGC CAC AGG CTG -3' (FRAG 871) (SEQ. ID NO: 881)
5'- CAT GGC GGC CAC AGG CT-3' (FRAG 872) (SEQ. ID NO: 882)
5'- CAT GGC GGC CAC AGG C-3' (FRAG 873) (SEQ. ID NO: 883)
5'- CAT GGC GGC CAC AGG -3' (FRAG 874) (SEQ. ID NO: 884)
10 5'- CAT GGC GGC CAC AG-3' (FRAG 875) (SEQ. ID NO: 885)
5'- CAT GGC GGC CAC A-3' (FRAG 876) (SEQ. ID NO: 886)
5'- CAT GGC GGC CAC-3' (FRAG 877) (SEQ. ID NO: 887)
5'- CAT GGC GGC CA-3' (FRAG 878) (SEQ. ID NO: 888)
5'- CAT GGC GGC C-3' (FRAG 879) (SEQ. ID NO: 889)
15 5'- AT GGC GGC CAC AGG CTG GGC-3' (FRAG 880) (SEQ. ID NO: 890)
5'- AT GGC GGC CAC AGG CTG GG-3' (FRAG 881) (SEQ. ID NO: 891)
5'- AT GGC GGC CAC AGG CTG G-3' (FRAG 882) (SEQ. ID NO: 892)
5'- AT GGC GGC CAC AGG CTG -3' (FRAG 883) (SEQ. ID NO: 893)
5'- AT GGC GGC CAC AGG CT-3' (FRAG 884) (SEQ. ID NO: 894)
20 5'- AT GGC GGC CAC AGG C-3' (FRAG 885) (SEQ. ID NO: 895)
5'- AT GGC GGC CAC AGG -3' (FRAG 886) (SEQ. ID NO: 896)
5'- AT GGC GGC CAC AG-3' (FRAG 887) (SEQ. ID NO: 897)
5'- AT GGC GGC CAC A-3' (FRAG 888) (SEQ. ID NO: 898)
5'- AT GGC GGC CAC-3' (FRAG 889) (SEQ. ID NO: 899)
25 5'- AT GGC GGC CA-3' (FRAG 890) (SEQ. ID NO: 900)
5'- T GGC GGC CAC AGG CTG GGC-3' (FRAG 891) (SEQ. ID NO: 901)
5'- T GGC GGC CAC AGG CTG GG-3' (FRAG 892) (SEQ. ID NO: 902)
5'- T GGC GGC CAC AGG CTG G-3' (FRAG 893) (SEQ. ID NO: 903)
5'- T GGC GGC CAC AGG CTG -3' (FRAG 894) (SEQ. ID NO: 904)
30 5'- T GGC GGC CAC AGG CT-3' (FRAG 895) (SEQ. ID NO: 905)
5'- T GGC GGC CAC AGG C-3' (FRAG 896) (SEQ. ID NO: 906)
5'- T GGC GGC CAC AGG -3' (FRAG 897) (SEQ. ID NO: 907)
5'- T GGC GGC CAC AG-3' (FRAG 898) (SEQ. ID NO: 908)
5'- T GGC GGC CAC A-3' (FRAG 899) (SEQ. ID NO: 909)
35 5'- T GGC GGC CAC-3' (FRAG 900) (SEQ. ID NO: 910)
5'- GGC GGC CAC AGG CTG GGC-3' (FRAG 901) (SEQ. ID NO: 911)
5'- GGC GGC CAC AGG CTG GG-3' (FRAG 902) (SEQ. ID NO: 912)
5'- GGC GGC CAC AGG CTG G-3' (FRAG 903) (SEQ. ID NO: 913)
5'- GGC GGC CAC AGG CTG -3' (FRAG 904) (SEQ. ID NO: 914)
40 5'- GGC GGC CAC AGG CT-3' (FRAG 905) (SEQ. ID NO: 915)
5'- GGC GGC CAC AGG C-3' (FRAG 906) (SEQ. ID NO: 916)
5'- GGC GGC CAC AGG -3' (FRAG 907) (SEQ. ID NO: 917)
5'- GGC GGC CAC AG-3' (FRAG 908) (SEQ. ID NO: 918)
5'- GGC GGC CAC A-3' (FRAG 909) (SEQ. ID NO: 919)
45 5'- GC GGC CAC AGG CTG GGC-3' (FRAG 910) (SEQ. ID NO: 920)
5'- GC GGC CAC AGG CTG GG-3' (FRAG 911) (SEQ. ID NO: 921)
5'- GC GGC CAC AGG CTG G-3' (FRAG 912) (SEQ. ID NO: 922)
5'- GC GGC CAC AGG CTG -3' (FRAG 913) (SEQ. ID NO: 923)
5'- GC GGC CAC AGG CT-3' (FRAG 914) (SEQ. ID NO: 924)
50 5'- GC GGC CAC AGG C-3' (FRAG 915) (SEQ. ID NO: 925)
5'- GC GGC CAC AGG -3' (FRAG 916) (SEQ. ID NO: 926)
5'- GC GGC CAC AG-3' (FRAG 917) (SEQ. ID NO: 927)
5'- C GGC CAC AGG CTG GGC-3' (FRAG 918) (SEQ. ID NO: 928)
5'- GGC CAC AGG CTG GG-3' (FRAG 919) (SEQ. ID NO: 929)
55 5'- C GGC CAC AGG CTG G-3' (FRAG 920) (SEQ. ID NO: 930)
5'- C GGC CAC AGG CTG -3' (FRAG 921) (SEQ. ID NO: 931)
5'- C GGC CAC AGG CT-3' (FRAG 922) (SEQ. ID NO: 932)
5'- C GGC CAC AGG C-3' (FRAG 923) (SEQ. ID NO: 933)
5'- C GGC CAC AGG -3' (FRAG 924) (SEQ. ID NO: 934)
60 5'- GGC CAC AGG CTC GGC-3' (FRAG 925) (SEQ. ID NO: 935)
5'- GGC CAC AGG CTC GG-3' (FRAG 926) (SEQ. ID NO: 936)
5'- GGC CAC AGG CTC G-3' (FRAG 927) (SEQ. ID NO: 937)

- 5'- GGG CAC AGG CTG -3' (FRAG 928) (SEQ. ID NO: 938)
 5'- GGG CAC AGG CT-3' (FRAG 929) (SEQ. ID NO: 939)
 5'- GGG CAC AGG C-3' (FRAG 930) (SEQ. ID NO: 940)
 5'- GG CAC AGG CTG GGC-3' (FRAG 931) (SEQ. ID NO: 941)
 5 5'- GG CAC AGG CTG GG-3' (FRAG 932) (SEQ. ID NO: 942)
 5'- GG CAC AGG CTG G-3' (FRAG 933) (SEQ. ID NO: 943)
 5'-GG CAC AGG CTG -3' (FRAG 934) (SEQ. ID NO: 944)
 5'- GG CAC AGG CT-3' (FRAG 935) (SEQ. ID NO: 945)
 5'-G CAC AGG CTG GGC-3' (FRAG 936) (SEQ. ID NO: 946)
 10 5'-G CAC AGG CTG GC-3' (FRAG 937) (SEQ. ID NO: 947)
 5'-G CAC AGG CTG G-3' (FRAG 938) (SEQ. ID NO: 948)
 5'-G CAC AGG CTG -3' (FRAG 939) (SEQ. ID NO: 949)
 5'-CAC AGG CTG GGC 3' (FRAG 940) (SEQ. ID NO: 950)
 5'-CAC AGG CTG GG-3' (FRAG 941) (SEQ. ID NO: 951)
 15 5'-CAC AGG CTG G-3' (FRAG 942) (SEQ. ID NO: 952)
 5'-AC AGG CTG GGC-3' (FRAG 943) (SEQ. ID NO: 953)
 5'-AC AGG CTG GG-3' (FRAG 944) (SEQ. ID NO: 954)
 5'-C AGG CTG GGC-3' (FRAG 945) (SEQ. ID NO: 955)
 5'-TTT TCC TTC CTT TGT CTC TCT TC (FRAG 946) (SEQ. ID NO: 956)
 20 5'-GCT CCC GGC TGC CTG (FRAG 947) (SEQ. ID NO: 957)
 5'-CTC GGC CGT GCG GCT CTG TCG CTC CCG GT (FRAG 948) (SEQ. ID NO: 958)
 5'-CCG CCG CCC TCC GGG GGG TC (FRAG 949) (SEQ. ID NO: 959)
 5'-TGC TGC CGT TGG CTG CCC (FRAG 950) (SEQ. ID NO: 960)
 5'-CTT CTG CGG GTC GCC GG (FRAG 951) (SEQ. ID NO: 961)
 25 5'-TGC TGG GCT TGT GGC (FRAG 952) (SEQ. ID NO: 962)
 5'-GGC CTC TCT TCT GGG (FRAG 953) (SEQ. ID NO: 963)
 5'-CCT GGT CCC TCC GT (FRAG 954) (SEQ. ID NO: 964)
 5'-GGT GGC TCC TCT GC (FRAG 955) (SEQ. ID NO: 965)
 5'-GCT TGG TCC TGG GGC TGC (FRAG 956) (SEQ. ID NO: 966)
 30 5'-TGC TCT CCT CTC CTT (FRAG 957) (SEQ. ID NO: 967)

Human Adenosine A2a Receptor Nucleic Acid and Antisense Oligonucleotide Fragments

- 5'-TGC TTT TCT TTT CTG GGC CTC TGT GGT CTG TTT TTT TCT G GCC CTG CTG GGG CGC TCT CC GCC GCC
 CGC CTG GCT CCC GGB GCC CBT GBT GGG CBT GCC GTG GTT CTT GCC CTC CTT TGG CTG CCG TGC CCG CTC
 CCC GGC CTC CTG GCG GGT GGC CGT TG GGC CCG TGT TCC CCT GGG -GCC TGG GGC TCC CTT CTC TC GCC
 35 CTT CTT GCT GGG CCT C TGC TGC TGG TGC TGT GGC CCC C GTA CAC CGA GGA GCC CAT GAT GGG CAT
 GCC ACA GAC GAC AGG C GTB CBC CGB GGB GCC CBT GBT GGG CBT GCC BCB GBC GBC BGG C-3' (FRAG. NO.
 1665) (SEQ. ID NO:1680)
 5'-CTG GGC CTC-3' (FRAG 1666) (SEQ. ID NO: 1681)
 5'-TGC TTT TCT TTT CTG GGC CTC-3' (FRAG 958) (SEQ. ID NO: 968)
 40 5'-TGT GGT CTG TTT TTT TCT G-3' (FRAG 959) (SEQ. ID NO: 969)
 5'-GCC CTG CTG GGG CGC TCT CC-3' (FRAG 960) (SEQ. ID NO: 970)
 5'-GCC GCC CGC CTG GCT CCC-3' (FRAG 961) (SEQ. ID NO: 971)
 5'-GGB GCC CBT GBT GGG CBT GCC-3' (FRAG 962) (SEQ. ID NO: 972)
 5'-GTG GTT CTT GCC CTC CTT TGG CTG-3' (FRAG 963) (SEQ. ID NO: 973)
 45 5'-CCG TGC CCG CTC CCC GGC-3' (FRAG 964) (SEQ. ID NO: 974)
 5'-CTC CTG GCG GGT GGC CGT TG-3' (FRAG 965) (SEQ. ID NO: 975)
 5'-GGC CCG TGT TCC CCT GGG-3' (FRAG 966) (SEQ. ID NO: 976)
 5'-GCC TGG GGC TCC CTT CTC TC-3' (FRAG 967) (SEQ. ID NO: 977)
 5'-GCC CTT CTT GCT GGG CCT C-3' (FRAG 968) (SEQ. ID NO: 978)
 50 5'-TGC TGC TGC TGG TGC TGT GGC CCC C-3' (FRAG 969) (SEQ. ID NO: 979)
 5'-GTACACCGAGGAGCCATGATGGGCATGCCACAGACGAGGC-3' (FRAG 970) (SEQ. ID NO: 980)
 5'-GTBCBCCBGBGBGCCBTGTGGGCBTGCCBCBGBCBGCGC-3' (FRAG 971) (SEQ. ID NO: 981)

Human Adenosine A2b Receptor Nucleic Acid & Antisense Oligonucleotide Fragments

- 5'-GGC GCC GTG CCG CGT CTT GGT GGC GGC GG GTT CGC GCC CGC GCG GGG CCC CTC CGG TCC GTT CGC
 55 GCC CGC GCG GGG CCC CTC CGG TCC CGG GTC GGG GCC CCC CGC GGC C GCC TCG GGG CTG GGG CGC TGG
 TGG CCG GG CCG CGC CTC CGC CTG CCG CTT CTG GCT GGG CCC CGG GCG CCC CCT CCC CTC TTG CTC GGG
 TCC CCG TG ACA GCG CGT CCT GTG TCT CCA GCA GCA TGG CCG GGC CAG CTG GGC CCC BCB GCG CGT CCT
 GTG TCT CCB GCB CCB TGG CCG GGC CBG CTG GGC CCC CCCAGCCCCG AGGCTCAGAA GCGGCAGGCG

GAGGCGCGGT CCGCGCGCTA TGGCCATGCC CGGCGGGTCT CACGCGGCTG CCCCTCGCCC GGCGCGCCTT
 CGGTAGGGGG CGCCCGGGGG CCAGCTGGCC CGGCCATGCT GCTGGAGACA CAGGACGCGC TGTACGTGGC
 GCTGGAGCTG GTCA TCGCCG CGCTTTCGGT GCGCGGCAAC GTGCTGGTGT GCGCCGCGGT GGGCACGGCG
 AACACTCTGC AGACGCCAC CAACTACTTC CTGGTGTCCT TGGCTGCGGC CGACGTGGCC GTGGGGCTCT
 5 TCGCCATCCC CTTT3CCATC ACCATCAGCC TGGGCTTCTG CACTGACTTC TACGGCTGCC TCTTCCTCGC
 CTGCTTCGTG CTGGIGCTCA CGCAGAGCTC CATCTTCAGC CTTCTGGCCG TGGCAGTCGA CAGATACCTG
 GCCATCTGTG TCCC3CTCAG GTATAAAAGT TTGGTACGG GGACCCGAGC AAGAGGGGTC ATTGCTGTCC
 TCTGGGTCTT TGCCITTTGGC ATCGGATTGA CTCCATTCTT GGGGTGGAAC AGTAAAGACA GTGCCACCAA
 CAACTGCACA GAACCTCTGGG ATGGAACCAC GAATGAAAGC TGCTGCCTTG TGAAGTGTCT CTTTGAGAAT
 10 GTGGTCCCA TGACCTACAT GGTATATTTT AATTTCTTTG GGTGTGTTCT GCGCCCACTG CTTATAATGC
 TGGTGATCTA CATT AAGATC TTCCTGGTGG CCTGCAGGCA GCTTCAGCGC ACTGAGCTGA TGGACCACTC
 GAGGACCACC CTCCAGCGGG AGATCCATGC AGCCAAGTCA CTGGCCATGA TTGTGGGGAT TTTTGCCCTG
 TGCTGGTTAC CTGT3CATGC TGTTAACTGT GTCACCTCTT TCCAGCCAGC TCAGGGTAAA AATAAGCCCA
 AGTGGGCAAT GAAATATGGCC ATTCTTCTGT CACATGCCAA TTCAGTTGTC AATCCCATG TCTATGCTTA
 15 CCGGAACCGA GACTTCCGCT ACACCTTTCA CAAAATTATC TCCAGGTATC TTCTCTGCCA AGCAGATGTC
 AAGAGTGGGA ATGGTCAGGC TGGGTACAG CCTGCTCTCG GTGTGGGCTT ATGATCTAGG CTCTCGCCTC
 TTCCAGGAGA AGATACAAAT CCACAAGAAA CAAAGAGGAC ACGGCTGGTT TTCATTGTGA AAGATAGCTA
 CACCTCACAA GGAATATGGAC TGCCTCTCTT GAGCACTTCC CTGGAGCTAC CACGTATCTA GCTAATATGT
 ATGTGTCAGT AGTAGCACC AAGATTGACA AATATATTTA TGATCTATTC AGCTGCTTTT ACTGTGTGGA
 20 TTATGCCAAC AGCTTGAATG GATTCTAACA GACTCTTTTG TTTTAAAG TCTGCCTTGT TTATGGTGGA
 AAATTACTGA AACTATTTTA CTGTGAAACA GTGTGAACTA TTATAATGCA AATACTTTTT AACTTAGAGG
 CAATGGAATA ATAAAGTTG ACTGTACTAA AAATGTATAC TTGTGCCAG GAAGGTGACC TCAAAAATTA
 AAAGTATAAT TATTGGGCCG GGCATGGTGG CTCACACCTG TAATTCCAGC ACTTTGGGAG GCCAAGGCAG
 GCGGATCACG AGGT CAGGAG TTCAAAACCA GCCTGTCCAA TATAGTG GGGCAATTTG TTAGTTATCC
 25 GCGGCCACCA AGACGCGGCA CGGCGCCTGG ACCGGAGGGG CCGCGCGCGG GCGCGAACTT TGGGCTCGGG
 CGAGTGGGTG GTGCTCCGCC CAGCCCGAGA CGGGCGGGCG CGCGGGCCAA TGGGTGCCGC CTCTTGGCCG
 CGGGGGGCCG CGACCGGTGG TCCCGGCCA CCAGCGCCCC AGCCCGGAGG CTCAGAAGCG GCAGCGGAG
 GCGCGGTCCG GGCCCTATGG CCATGCCCGG CGGCTCTCAC GCGGTGCCCC CTCGCCCGG CGGCTTTCGG
 TAGGGGGCGC CCGGGGCCCA GCTGGCCCGG CCATGCTGCT GGAGACACAG GACGCGCTGT ACGTGGCGCT
 30 GGAGCTGGTC ATCGCCGCGC TTTCGGTGGC GGGCAACGTG CTGGTGTGCG CCGCGGTGGG CACGGCGAAC
 ACTCTGCAGA CGCCACCAA CTACTTCCTG GTGTCCCTGG CTGCGGCCGA CGTGGCCGTG GGGCTCTTCG
 CCATCCCTTT TGCCATCACC ATCAGCCTGG GCTTCTGCAC TGACTTCTAC GGCTGCCTCT TCCTCGCCTG
 CTTCTGTCTG GTGCTCAGC AGAGCTCCAT CTTAGCCTT CTGGCCGTGG CAGTCGACAG ATACCTGGCC
 ATCTGTGTCC CGCTCAGGTA TAAAAGTTTG GTACGCGGGA CCCGAGCAAG AGGGGTCAAT GCTGTCTCT
 35 GGGTCTTTGC CTTTGGCATC GGATTGACTC CATTCTTGGG GTGGAACAGT AAAGACAGTG CCACCAACAA
 CTGCACAGAA CCCTGGGATG GAACCACGAA TGAAAGCTGC TGCCTTGTGA AGTGTCTCTT TGAGAATGTG
 GTCCCATGAT GCTACATGGT ATATTTCAAT TTCTTTGGGT GTGTTCTGCC CCCACTGCTT ATAATGCTGG
 TGATCTACAT TAAGATCTTC CTGGTGGCCT GCAGGCAGCT TCAGCGCACT GAGCTGATGG ACCACTCGAG
 GACCACCTC CAGCGGGAGA TCCATGCAGC CAACTGCACTG GCCATGATTG TGGGGATTTT TGCCCTGTGC
 40 TGGTTACCTG TGCAIGCTGT TAACTGTGTC ACTCTTTTCC AGCCAGCTCA GGGTAAATAA AAGCCCAAGT
 GGGCAATGAA TATCGCCATT CTCTGTGTC ATGCCAATTC AGTTGTCAAT CCCATTGTCT ATGCTTACCG
 GAACCGAGAC TTCCGCTACA CTTTTCACAA AATATCTCC AGGTATCTTC TCTGCCAAGC AGATGTCAAG
 AGTGGGAATG GTCA GGCTGG GGTACAGCCT GCTCTCGGTG TGGGCCTATG ATCTAGGCTC TCGCCTCTTC
 CAGGAGAAGA TACA AATCCA CAAGAAACAA AGAGGACACG GCTGGTTTTT ATTGTGAAAG ATAGCTACAC
 45 CTCACAAGGA AATC GACTGC CTCTCTTGAG CACTTCCCTG GAGCTACCAC GTATCTAGCT AATATGTATG
 TGTCAGTAGT AGGCTCCAAG GATTGACAAA TATATTTATG ATCTATTCACT CTGCTTTTAC TGTGTGGATT
 ATGCCAACAG CTTGAATGGA TTCTAACAGA CTCTTTTGT TTTAAAGTC TGCCTTGT TT ATGGTGAAA
 ATTAAGTAAA CTATTTTACT GTGAAACAGT GTGAACTATT ATAATGCAAA TACTTTTTAA CTTAGAGGCA
 ATGGAATAAT AAAAGTTGAC TGTAATAAAA ATG CCCAGCCCCG AGGCTCAGAA GCGGCAGGCG GAGGCGCGGT
 50 CCGGGCGCTA TGGCCATGCC CGGCGGGTCT CACGCGGCTG CCCCTCGCCC GCGCGCGCTT CGGTAGGGGG
 CGCCCGGGGG CCAGCTGGCC CGGCCATGCT GCTGGAGACA CAGGACGCGC TGTACGTGGC GCTGGAGCTG
 GTCATCGCCG CGCTTTCGGT GCGGGGCAAC GTGCTGGTGT GCGCCGCGGT GGGCACGGCG AACACTCTGC
 AGACGCCAC CACTACTTC CTGGTGTCCC TGGCTGCGGC CGACGTGGCC GTGGGGCTCT TCGCCATCCC
 CTTTGCCATC ACCATCAGCC TGGGCTTCTG CACTGACTTC TACGGCTGCC TCTTCTCGC CTGCTTCGTG
 55 CTGGTGCTCA CGCA3AGCTC CATCTTCAGC CTTCTGGCCG TGGCAGTCGA CAGATACCTG GCCATCTGTG
 TCCCGCTCAG GTATAAAAGT TTGGTACAGG GGACCCGAGC AAGAGGGGTC ATTGCTGTCC TCTGGGTCTT
 TGCTTTTGGC ATCGGATTGA CTCCATTCTT GGGGTGGAAC AGTAAAGACA GTGCCACCAA CAACTGCACA
 GAACCTGGG ATGGAACCAC GAATGAAAGC TGCTGCCTTG TGAAGTGTCT CTTTGAGAAT GTGGTCCCA
 TGAGCTACAT GGTATATTTT AATTTCTTTG GGTGTGTTCT GCGCCCACTG CTTATAATGC TGGTGATCTA

CATTAAAGATC TTCCFGGTGG CCTGCAGGCA GCTTCAGCGC ACTGAGCTGA TGGACCACTC GAGGACCACC
 CTCCAGCGGG AGATCCATGC AGCCAAGTCA CTGGCCATGA TTGTGGGGAT TTTTGCCCTG TGCTGGTTAC
 CTGTGCATGC TGTTAAGTGT GTCACCTCTT TCCAGCCAGC TCAGGGTAAA AATAAGCCCA AGTGGGCAAT
 GAATATGGCC ATTC TTCTGT ACATGCCAA TTCAGTTGTC AATCCCATTG TCTATGCTTA CCGGAACCGA
 5 GACTTCCGCT ACAC TTTTCA CAAAATTATC TCCAGGTATC TTCTCTGCCA AGCAGATGTC AAGAGTGGGA
 ATGGTCAGGC TGGC GTACAG CCTGCTCTCG GTGTGGGCCT ATGATCTAGG CTCTCGCCTC TTCCAGGAGA
 AGATACAAAT CCACAAGAAA CAAAGAGGAC ACGGCTGGTT TTCATTGTGA AAGATAGCTA CACCTCACAA
 GGAAATGGAC TGCC TCTCTT GAGCACTTCC CTGGAGCTAC CACGTATCTA GCTAATATGT ATGTGTCAGT
 AGTAGCACCA AGGATTGACA AATATAATTA TGATCTATTC AGCTGCTTTT ACTGTGTGGA TTATGCCAAC
 10 AGCTTGAATG GATCTAACA GACTCTTTTG TTTTAAAAAG TCTGCCTTGT TTATGGTGGG AAATTACTGA
 AACTATTTTA CTGTAAAACA GTGTGAACTA TTATAATGCA AATACTTTT AACCTAGAGG CAATGGAAAA
 ATAAAAGTTG ACTGTACTAA AAATGTATAC TTGTTGCCAG GAAGGTGACC TCAAAAATTA AAAGTATAAT
 TATTCGGCCG GGCA TGGTGG CTCACACCTG TAATTCCAGC ACTTTGGGAG GCCAAGGCAG GCGGATCACG
 AGGTCAAGGAG TTC AAAACCA GCCTGTCCAA TATAGTG GGGCAATTTG TTAGTTATCC GCCGCCACCA
 15 AGAGCGCGCA CGCGCCTGG ACCGGAGGGG CCCC CGCGCG GCGCGAACTT TGGGCTCGGG CGAGTGGGTG
 GTGCTCCGCC CAGC CGAGA CGGGCGGGCG CGCGGGCCAA TGGGTGCCGC CTCTTGGCCG CGGGGGGCC
 CGACCCGTGG GTCC CGGCA CCAGCGCCCC AGCCCCGAGG CTCAGAAGCG GCAGGCGGAG GCGCGTCCG
 GCGGCTATGG CCATGCCCGG CGGGTCTCAC GCGGCTGCCC CTCGCCCGGC GCGCCTTCGG TAGGGGGCGC
 CCGGGGCCCA GCTGGCCCGG CCATGCTGCT GGAGACACAG GACGCGCTGT ACGTGGCGCT GGAGCTGGTC
 20 ATCGCCGCGC TTTC GTGGG GGGCAACGTG CTGGTGTGCG CCGCGGTGGG CACGGCGAAC ACTCTGCAGA
 CGCCACCAA CTACTTCCTG GTGTCCCTGG CTGCGGCCGA CGTGGCCGTG GGGCTCTTCG CCATCCCCTT
 TGCCATCACC ATCAGCCTGG GCTTCTGCAC TGACTTCTAC GGCTGCCTCT TCCTCGCCTG CTTCGTGCTG
 GTGCTCACGC AGAC CTCCAT CTTCAGCCTT CTGGCCGTGG CAGTCGACAG ATACCTGGCC ATCTGTGTCC
 CGCTCAGGTA TAAAAGTTTG GTCACGGGGA CCCGAGCAAG AGGGGTCAAT GCTGTCTCTT GGGTCCTTGC
 25 CTTTGGCATC GGAT TGA CTC CATTCTGGG GTGGAACAGT AAAGACAGTG CCACCAACAA CTGCACAGAA
 CCCTGGGATG GAAC CACGAA TGAAAGCTGC TGCCTTGTGA AGTGTCTCTT TGAGAATGTG GTCCCCATGA
 GCTACATGGT ATATTTCAAT TTCTTTGGGT GTGTTCTGCC CCCACTGCTT ATAATGTGAG TGATCTACAT
 TAAGATCTTC CTGG TGGCT GCAGGCAGT TCAGGCAGT GAGCTGATGG ACCACTCGAG GACCACCCTC
 CAGCGGGAGA TCC TGCAGC CAAGTCACTG GCCATGATTG TGGGGATTTT TGCCTGTGC TGGTTACCTG
 30 TGCATGCTGT TAAC TGTGTC ACTCTTTTCC AGCCAGCTCA GGGTAAAAAT AAGCCCAAGT GGGCAATGAA
 TATGGCCATT CTTC TGTGTC ATGCCAATTC AGTTGTCAAT CCCATTGTCT ATGCTTACCG GAACCGAGAC
 TTCCGCTACA CTTT CACAA AATTATCTCC AGGTATCTTC TCTGCCAAGC AGATGTCAAG AGTGGGAATG
 GTCAGGCTGG GGTACAGCCT GCTCTCGGTG TGGGCCTATG ATCTAGGCTC TCGCCTCTTC CAGGAGAAGA
 TACAAATCCA CAAGAAACAA AGAGGACACG GCTGGTTTTC ATTGTGAAAG ATAGCTACAC CTCACAAGGA
 35 AATGGACTGC CTCTCTTGAG CACTTCCCTG GAGCTACCAC GTATCTAGCT AATATGTATG TGTCAGTAGT
 AGGCTCCAAG GAT TACAAA TATATTTATG ATCTATTGAG CTGCTTTTAC TGTGTGGATT ATGCCAACAG
 CTTGAATGGA TTCTAACAGA CTCTTTTGT TTTAAAAGTC TGCCTTGTTC ATGGTGGAAA ATTAAGTAAA
 CTATTTTACT GTGAACAGT GTGAACATAT ATAATGCAAA TACTTTTAA CTTAGAGGCA ATGGAAAAAT
 AAAAGTTGAC TGTACTAAAA ATG -3' (FRAG. NO: 1670) (SEQ. ID NO:3006)
 40 5'- GGGCAATTTG TTAGTTATCC GCCGCCACCA AGACGCGGCA CGGCGCCTGG ACCGGAGGGG CCCC CGCGCG
 GCGCGAACTT TGGG CTGGG CGAGTGGGTG GTGCTCCGCC CAGCCCGAGA CGGGCGGGCG CGCGGGCCAA
 TGGGTGCCGC CTCT TGGCCG CGGGGGGCCG CGACCCGTGG GTCCCGGCCA CCAGCGCCCC AGCCCCGAGG
 CTCAGAAGCG GCAGGCGGAG GCGCGGTCCG GCGGCTATGG CCATGCCCGG CGGGTCTCAC GCGGCTGCC
 CTCGCCCGGC GCGC CTTCGG TAGGGGGCGC CCGGGGCCCA GCTGGCCCGG CCATGCTGCT GGAGACACAG
 45 GACGCGCTGT ACGT TCGCCT GGAGCTGGTC ATCGCCGCGC TTTCGGTGGC GGGCAACGTG CTGTGCTGCG
 CCGCGGTGGG CACGCGGAAC ACTCTGCAGA CGCCACCAA CTA CTCTCTG GTGTCCCTGG CTGCGGCCGA
 CGTGGCCGTG GGG CTCTTCG CCATCCCCTT TGCCATCACC ATCAGCCTGG GCTTCTGCAC TGACTTCTAC
 GGCTGCCTCT TCCT TCGCTG CTTCGTGCTG GTGCTCACGC AGAGCTCCAT CTTCAGCCTT CTGGCCGTGG
 CAGTCGACAG ATACTGGCC ATCTGTGTC CGCTCAGGTA TAAAAGTTTG GTCACGGGGA CCCGAGCAAG
 50 AGGGGTCAAT GCTGTCTCT GGGTCTTGC CTTTGGCATC GGATTGACTC CATTCTGGG GTGGAACAGT
 AAAGACAGTG CCACCAACAA CTGCACAGAA CCCTGGGATG GAACACGAA TGAAAGCTGC TGCCTTGTGA
 AGTGTCTCTT TGAG AATGTG GTCCCCATGA GCTACATGGT ATATTTCAAT TTCTTTGGGT GTGTCTGCC
 CCCACTGCTT ATAA TGTGTT TGATCTACAT TAAGATCTTC CTGGTGGCCT GCAGGCAGCT TCAGCGCACT
 GAGCTGATGG ACCACTCGAG GACCACCCTC CAGCGGGAGA TCCATGCAGC CAAGTCACTG GCCATGATTG
 55 TGGGGATTTT TGCC TGTGTC TGGTTACCTG TGCATGCTGT TAACTGTGTC ACTCTTTTCC AGCCAGCTCA
 GGGTAAAAAT AAGC CCAAGT GGGCAATGAA TATGGCCATT CTTCTGTGAC ATGCCAATTC AGTTGTCAAT
 CCCATTGTCT ATGC TTACCG GAACCGAGAC TTCCGCTACA CTTTTCACAA AATTATCTCC AGGTATCTTC
 TCTGCCAAGC AGAT TCAAG AGTGGGAATG GTCAGGCTGG GGTACAGCCT GCTCTCGGTG TGGGCCTATG
 ATCTAGGCTC TCGC TCTTC CAGGAGAAGA TACAAATCCA CAAGAAACAA AGAGGACACG GCTGGTTTTT

ATTGTGAAAG ATACCTACAC CTCACAAGGA AATGGACTGC CTCTCTTGAG CACTTCCCTG GAGCTACCAC
 GTATCTAGCT AATATGTATG TGTCAAGTAGT AGGCTCCAAG GATTGACAAA TATATTTATG ATCTATTTCAG
 CTGCTTTTAC TGTGIGGATT ATGCCAACAG CTTGAATGGA TTCTAACAGA CTCTTTTGTT TTTAAAAAGTC
 TGCCTTGTTT ATGGIGGAAA ATTACTGAAA CTATTTTACT GTGAAACAGT GTGAACTATT ATAATGCAAA
 5 TACTTTTAA CTTAGAGGCA ATGGAAAAAT AAAAGTTGAC TGTACTAAAA ATG-3' (FRAG.NO:) (SEQ.ID NO:2436)
 5'-CCAGCCCCG AGGCTCAGAA GCGGCAGGCG GAGGCGCGGT CCGGGCGCTA TGGCCATGCC CGGCGGGTCT
 CACGCGGCTG CCCCTCGCCC GGCAGCGCCTT CGGTAGGGGG CGCCCGGGGC CCAGCTGGCC CGGCCATGCT
 GCTGGAGACA CAGGACGCGC TGTACGTGGC GCTGGAGCTG GTCATCGCCG CGCTTTCTGGT GGCGGGCAAC
 GTGCTGGTGT GCGCCGCGGT GGGCAGGCG AACACTCTGC AGACGCCAC CAACTACTTC CTGGTGTCCC
 10 TGGCTGCGGC CGAGCTGGCC GTGGGGCTCT TCGCCATCCC CTTTGCCATC ACCATCAGCC TGGGCTTCTG
 CACTGACTTC TACGGCTGCC TCTCCTCGC CTGCTTCGTG CTGGTGCTCA CGCAGAGCTC CATCTTCAGC
 CTTCTGGCCG TGGCAGTCGA CAGATACCTG GCCATCTGTG TCCCGCTCAG GTATAAAAGT TTGGTCACGG
 GGACCCGAGC AAGAGGGGTC ATTGCTGTCC TCTGGGTCC TGCCTTTGGC ATCGGATTGA CTCCATTCT
 GGGGTGGAAC AGTAAGACA GTGCCACCA CAACTGCACA GAACCCTGGG ATGGAACCAC GAATGAAAGC
 15 TGCTGCCTTG TGAAAGTGTCT CTTTGAGAAT GTGGTCCCCA TGAGCTACAT GGTATATTTT AATTTCTTTG
 GGTGTGTTCT GCGCCACTG CTTATAATGC TGGTGATCTA CATTAAAGATC TTCCTGGTGG CCTGCAGGCA
 GCTTCAGCGC ACTGAGCTGA TGGACCACTC GAGGACCACC CTCCAGCGGG AGATCCATGC AGCCAAGTCA
 CTGGCCATGA TTGIGGGAT TTTTGCCCTG TGCTGGTTAC CTGTGCATGC TGTTAACTGT GTCACCTTTT
 TCCAGCCAGC TCAGGGTAAA AATAAGCCCA AGTGGGCAAT GAATATGGCC ATTCTTCTGT CACATGCCAA
 20 TTCAGTTGTC AATCCCATG TCTATGCTTA CCGGAACCGA GACTTCCGCT ACACCTTTTCA CAAAATTATC
 TCCAGGTATC TTCTCTGCCA AGCAGATGTC AAGAGTGGGA ATGGTCAGGC TGGGGTACAG CCTGCTCTCG
 GTGTGGGCTT ATGATCTAGG CTCTCGCCTC TTCCAGGAGA AGATACAAAT CCACAAGAAA CAAAGAGGAC
 ACGGCTGTTT TTCAITGTGA AAGATAGCTA CACCTCACAA GGAAATGGAC TGCCTCTCTT GAGCACTTCC
 CTGGAGCTAC CACCTATCTA GCTAATATGT ATGTGTGAGT AGTAGCACA AGGATTGACA AATATATTTA
 25 TGATCTATTC AGCTGCTTTT ACTGTGTGGA TTATGCCAAC AGCTTGAATG GATTCTAACA GACTCTTTTG
 TTTTAAAAAG TCTGCTTGT TTATGGTGGG AAATTACTGA AACTATTTTA CTGTGAAACA GTGTGAACTA
 TTATAATGCA AATACTTTT AACTTAGAGG CAATGGAAAA ATAAAAGTTG ACTGTACTAA AAATGTATAC
 TTGTTGCCAG GAAGGTGACC TCAAAAATTA AAAGTATAAT TATTCGGCCG GGCATGGTGG CTCACACCTG
 TAATTCAGC ACTTGGGAG GCGGATCAGC AGGTGAGGAG TCAAAAACCA GCCTGTCCAA
 30 TATAGTG -3' (FRAG. NO:) (SEQ. ID NO:2435)
 5'-GGGCAATTTG TTAGTTATCC GCCGCCACCA AGACGCGGCA CGGCGCCTGG ACCGGAGGGG CCGCGCGCGG
 GCGCGAATTT TGGGCTCGGG CGAGTGGGTG GTGCTCCGCC CAGCCCGAGA CGGGCGGGCG CGCGGGCCAA
 TGGGTGCCGC CTCTGGCCG CGGGGGGCCC CGACCCGTGG GTCCCGGCA CCAGCGCCCC AGCCCCGAGG
 35 CTCAGAAGCG GCACGCGGAG GCGCGGTCCG GCGGCTATGG CCATGCCCGG CGGGTCTCAC GCGGCTGCCC
 CTCGCCCGGC GCGCCTTCGG TAGGGGGCGC CCGGGGCGCA GCTGGCCCGG CCATGCTGCT GGAGACACAG
 GACGCGCTGT ACGTGGCGCT GGAGCTGGTC ATCGCCGCGC TTTCGGTGGC GGGCAACGTG CTGGTGTGCG
 CCGCGGTGGG CACCGCGAAC ACTCTGCAGA CGCCACCAA CTAATCTCTG GTGTCCCTGG CTGCGGCCGA
 CGTGGCCGTG GGGCTCTTCG CCATCCCTT TGCCATCACC ATCAGCCTGG GCTTCTGCAC TGACTTCTAC
 GGTGCCTCT TCCTCGCTG CTTCTGCTG GTGCTCAGC AGAGCTCCAT CTTAGCCTT CTGGCCGTGG
 40 CAGTCGACAG ATACTGGCC ATCTGTGCTC CTTGAGGTA TAAAAGTTT GTACGCGGGA CCCGACAAG
 AGGGGTCAAT GCTCTCTCT GGGTCTTGC CTCTGGCATC GGATTGACTC CATTCTGGG GTGGAACAGT
 AAAGACAGTG CCACCAACAA CTGCACAGAA CCCTGGGATG GAACCACGAA TGAAAGCTGC TGCCTGTGA
 AGTGTCTCTT TGAGAATGTG GTCCCATGA GCTACATGGT ATATTTCAAT TTCTTTGGGT GTGTCTGCG
 CCCACTGCTT ATAATGCTGG TGATCTACAT TAAGATCTTC CTGGTGGCCT GCAGGCAGCT TCAGCGCACT
 45 GAGCTGATGG ACCCTCGAG GACCACCTC CAGCGGAGA TCCATGCAGC CAAGTCACTG GCCATGATTG
 TGGGGATTTT TGCCCTGTGC TGGTACCTG TGCATGCTGT TAACTGTGTC ACTCTTTTCC AGCCAGCTCA
 GGGTAAAAAT AAGCCCAAGT GGGCAATGAA TATGGCCATT CTCTGTGAC ATGCCAATTC AGTTGTCAAT
 CCCATTGTCT ATGCTTACCG GAACCGAGAC TTCCGTACA CTTTTACAA AATTATCTCC AGGTATCTTC
 TCTGCCAAGC AGATGTCAAG AGTGGGAATG GTCAGGCTGG GGTACAGCCT GCTCTCGGTG TGGGCTATG
 50 ATCTAGGCTC TCGCTCTTC CAGGAGAAGA TACAAATCCA CAAGAAACAA AGAGGACACG GCTGGTTTTC
 ATTGTGAAAG ATACCTACAC CTCACAAGGA AATGGAATGC CTCTCTGAG CACTTCCCTG GAGTACCAC
 GTATCTAGCT AATATGTATG TGTCAAGTAGT AGGCTCCAAG GATTGACAAA TATATTTATG ATCTATTTCAG
 CTGCTTTTAC TGTGIGGATT ATGCCAACAG CTTGAATGGA TTCTAACAGA CTCTTTTGTT TTTAAAAAGTC
 TGCCTTGTTT ATGGIGGAAA ATTACTGAAA CTATTTTACT GTGAAACAGT GTGAACTATT ATAATGCAAA
 55 TACTTTTAA CTTAGAGGCA ATGGAAAAAT AAAAGTTGAC TGTACTAAAA ATG-3' (FRAG. NO:) (SEQ.ID NO:2425)
 5'-CCAGCCCCG AGGCTCAGAA GCGGCAGGCG GAGGCGCGGT CCGGGCGCTA TGGCCATGCC CGGCGGGTCT
 CACGCGGCTG CCCCTCGCCC GGCAGCGCCTT CGGTAGGGGG CGCCCGGGGC CCAGCTGGCC CGGCCATGCT
 GCTGGAGACA CAGGACGCGC TGTACGTGGC GCTGGAGCTG GTCATCGCCG CGCTTTCTGGT GGCGGGCAAC
 GTGCTGGTGT GCGCCGCGGT GGGCAGGCG AACACTCTGC AGACGCCAC CAACTACTTC CTGGTGTCCC

TGGCTGCGGC CGACGTGGCC GTGGGGCTCT TCGCCATCCC CTTTGCCATC ACCATCAGCC TGGGCTTCTG
 CACTGACTTC TACGGCTGCC TCTTCCTCGC CTGCTTCGTG CTGGTGCTCA CGCAGAGCTC CATCTTCAGC
 CTTCTGGCCG TGGCAGTCGA CAGATACCTG GCCATCTGTG TCCCGCTCAG GTATAAAAGT TTGGTCACGG
 GGACCCGAGC AAGAGGGGTC ATTGCTGTCC TCTGGGTCCT TGCCTTTGGC ATCGGATTGA CTCCATTCCT
 5 GGGGTGGAAC AGTAAAGACA GTGCCACCAA CAAGTGCACA GAACCCTGGG ATGGAACCAC GAATGAAAGC
 TGCTGCCTTG TGAAAGTGCT CTTGAGAAT GTGGTCCCA TGAGCTACAT GGTATATTTC AATTTCTTTG
 GGTGTGTTCT GCCCCACTG CTTATAATGC TGGTGATCTA CATTAAAGATC TTCCTGGTGG CCTGCAGGCA
 GCTTCAGCGC ACTGAGCTGA TGGACCACTC GAGGACCACC CTCCAGCGGG AGATCCATGC AGCCAAGTCA
 CTGGCCATGA TTGTGGGGAT TTTTGCCCTG TGCTGGTTAC CTGTGCATGC TGTAACTGT GTCACTCTTT
 10 TCCAGCCAGC TCAGGGTAAA AATAAGCCCA AGTGGGCAAT GAATATGGCC ATTCTTCTGT CACATGCCAA
 TTCAGTTGTC AATCCCATG TCTATGCTTA CCGGAACCGA GACTTCCGCT ACACTTTTCA CAAAATTATC
 TCCAGGTATC TTCTTGCCA AGCAGATGTC AAGAGTGGGA ATGGTCAGGC TGGGGTACAG CCTGCTCTCG
 GTGTGGGCCT ATGATCTAGG CTCTCGCCTC TTCCAGGAGA AGATACAAAT CCACAAGAAA CAAAGAGGAC
 ACGGCTGGTT TTCAATTGTA AAGATAGCTA CACCTCACAA GGAAATGGAC TGCCTCTCTT GAGCACTTCC
 15 CTGGAGCTAC CACC TATCTA GCTAATATGT ATGTGTCAGT AGTAGCACC AGGATTGACA AATATATTTA
 TGATCTATTC AGCTGCTTTT ACTGTGTGGA TTATGCCAAC AGCTTGAATG GATTCTAACA GACTCTTTTG
 TTTTAAAAAG TCTGCCTTGT TTATGGTGA AAATTACTGA AACTATTTA CTGTGAAACA GTGTGAACTA
 TTATAATGCA AATACTTTT AACTTAGAGG CAATGGAAAA ATAAAAGTTG ACTGTACTAA AAATGTATAC
 TTGTGTCAG GAAGGTGACC TCAAAAATTA AAAGTATAAT TATTCGGCCG GGCATGGTGG CTCACACCTG
 20 TAATTCAGC ACTTTGGGAG GCCAAGGCAG GCGGATCACG AGGTCAGGAG TTCAAAACCA GCCTGTCCAA
 TATAGTG (FRAG. NO.) (SEQ. ID NO: 2424)
 5'-GCGCGTCTCTG-3' (FRAG. NO: 1671) (SEQ. ID NO:1686)
 5'-GCT GGG CCC CGG 3' (FRAG. NO: 1672) (SEQ. ID NO:1687)
 5'-CGG GTC GGG GCC CCC C-3' (FRAG. NO: 1673) (SEQ. ID NO:1688)
 25 5'- CGC GCC CGC G-3' (FRAG. NO: 1674) (SEQ. ID NO:1689)
 5'-GGC GCC GTG CCG CGT CTT GGT GGC GGC GG-3' (FRAG 972) (SEQ. ID NO: 982)
 5'-GTT CGC GCC CGC 3CG GGG CCC CTC CGG TCC-3' (FRAG 973) (SEQ. ID NO: 983)
 5'-GTT CGC GCC CGC 3CG GGG CCC CTC CGG TCC-3' (FRAG 974) (SEQ. ID NO: 984)
 5'-CGG GTC GGG GCC CCC CGC GGC C-3' (FRAG 975) (SEQ. ID NO: 985)
 30 5'-GCC TCG GGG CTG GGG CGC TGG TGG CCG GG-3' (FRAG 976) (SEQ. ID NO: 986)
 5'-CCG CGC CTC CGC CTG CCG CTT CTG-3' (FRAG 977) (SEQ. ID NO: 987)
 5'-GCT GGG CCC CGG GCG CCC CCT-3' (FRAG 978) (SEQ. ID NO: 988)
 5'-CCC CTC TTG CTC GGG TCC CCG TG-3' (FRAG 979) (SEQ. ID NO: 989)
 5'-ACAGCGCGTCTGTGTCTCCAGCAGCATGGCCGGGCCAGCTGGGCCCC-3' (FRAG 980) (SEQ. ID NO: 990)
 35 5'-BCBGCGCGTCTGTGTCTCCBGCBGTGGCCGGGCCBGTGGGCCCC-3' (FRAG 981) (SEQ. ID NO: 991)

Human Adenosine A3 Receptor Nucleic Acid and Antisense Oligonucleotide Fragments

5'-ACA GAG CAG TGC TGT TGT TGG GCA TCT TGC CTT CCC AGG G BCB GBG CB TGC TGT TGT TGG GCB TCT
 TGC CTT CCC BGG GCG CTT TTC TGG TGG GGT GGT GCT GTT GTT GGG CTT TCT TCT GTT CCC BCB GBG CBG
 TGC TGT TGT TGG GCB TCT TGC CTT CCC BGG GCC CTT TTC TGG TGG GGT GGT GCT GTT GTT GGG C TTT CTT
 40 CTG TTC CC GAATCCCCAG ATGGGCAGAG GTGGCTGGGC TGGTGACCCT AAGTGTGTCT CCTGCCTTTA
 TTCTCTCTAG TGGGTTATTC TTTTATGTGG TATCTTGCTT ACAGCATGCT GTGTTTGGAC ACAAACCCCT
 TTCTTGGTT TCTC GACCC AGCTGAGATG GACTGATTCC AAAAGAACTC ACCTATGTAC TGGGGTAGGG
 GAGGGAGGGT TTTTGTGAGT ATTTAACTAA GGTTCAAAGA GTGCTATATA GTGAGAAAGG CTCTTTTTT
 TTTTTTTTTT TTTTITGGCA GAGTGCTGCC TCCTAGAAAT TTCTCTTGGT AACTTCCTTC TCTGAAGCAC
 45 AGATAAAGAA AACATTACA GTAGAAACAT TTATGAGGGA CACATTGGAG GCCGATGAAG CTTTCAAGT
 TCCAGCAGTG CAGGGATGTG GGCAGAACTG ACATTGGAAA ATACTAGAAT GATGGAAAT CAGTTGGAGA
 GGACTGCCCT TTTTAAATGTC TGGGGAGTCT GCTCAGGGAG AAATGACAAG TCTGGCGGGG ACAAGTATGG
 GATTTGGTAA GACTTGGATC AACTTGGGAT ACAGGGTGGG GGTCGGGAGT GGAATCAATG AATGATGCCA
 GAGCAGATCA ACTACAAGA GGACCCTGAT GAGCCCCAGG CAGAGGCGTC TCCCTTATGC CCCACTCTGA
 50 AGTGTTTGTT AGTAAACACC AGAACGCCAT TGTTGTTACT GCTGAATTTT ATTTTGGGCT GTACATATTT
 AGATGCTTAA GGTAAAATG ATAAAGCCCT CAAGCCACTG TGTGGGTTTG GGTCCAAGTG TTCCTTCTTG
 CTGCCTCTCT AACAAGCCTG GTTAAAATAA TCCCTTTGGA TGGTGCTGAG AAGCACCTGA ACCAAGTGGG
 TCCCCAAATA ACAATGGCGT GCAAGTGTCT GGTTCACAGA AGTTGGTGAC TAGGTAAGCA GCTTCAGGGA
 GAGGGGGCTG ATTCACAGAC AGTCGCCTGT TCCTGCGGGG ATGGGGCTGA GGCTTGGGGA ATGTGGGCAG
 55 GAGGATATGC CATTGATTG TGTGACACAC GTTCTTTTCC CTTCTTTCTG TATGTCTGGT CATTCTGCTA
 TTCTGTCGTT CCTACATAG GTTGGACATT GGCCGGCTGC CAGCATAAGT GCCAGTGTGA TTTTGCTAGG
 TGTGAGCTGA GAAAGAGAGG TGGAGGCTAA GCAGGTGTGA TGCTTCTCAG AGGTGCTGAG TTTTGGCCCT
 TCTGAGCAGG GAACTTTTGC TTATCCCTTT GACCAAGGAT CTTTGCTGCA AAGGCTGGGT ATCGGCTGTG

Geographical location		Elevation		Temperature		Humidity		Wind speed		Precipitation		Soil type		Vegetation		Wildlife		Human impact	
Latitude	Longitude	Altitude (m)	Depth (m)	Max (°C)	Min (°C)	Max (%)	Min (%)	Max (m/s)	Min (m/s)	Max (mm)	Min (mm)	Soil texture	Soil pH	Plant species	Animal species	Human population	Land use	Water quality	Air quality
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0	0.0	Clay	6.5	100	100	1000	Urban	Good	Good
10.00	10.00	1000	1000	30.0	10.0	80.0	20.0	5.0	0.5	100.0									

GGGCTGAACA TGTCTGTGGT GGTGACTCAT TTCCATGCCA TTGTGGAATT GAGCAGAGAA CCTGCTCTCG
 GAGGATGCCT AGGAGATGTT GGGAAACAGAA GAAATAAACT GAGTTTAAGG GGGACTTAAA CTGCTGAATT C
 GAATTCCTCAG ATGCGCAGAG GTGGCTGGGC TGGTGACCCT AAGTGTGTCT CCTGCCTTTA TTCTCTCTAG
 TGGGTTATTC TTTCATGTGG TATCTTGCCCT ACAGCATGCT GTGTTTGGAC ACAAACCCCT TTCCTTGGTT
 5 TCTCTGACCC AGCTAGATG GACTGATTCC AAAAGAACTC ACCTATGTAC TGGGGTAGGG GAGGGAGGGT
 TTTTTCAGT ATTTAACTAA GGTCAAAGA GTGCTATATA GTGAGAAAAGG CTTCTTTTTT TTTTTTTTTT
 TTTTTCGCA GAGTGCTGCC TCCTAGAAAT TTCTCTTGGT AACTTCCTTC TCTGAAGCAC AGATAAAGAA
 AACAAATACA GTACAACAT TTATGAGGGA CACATTGGAG GCCGATGAAG CTTTCAAGT TCCAGCAGTG
 CAGGGATGTG GGCAGAACTG ACATTGGAAG ATACTAGAAT GATGGAAATT CAGTTGGAGA GGAAGTCCCT
 10 TTTTAATGTC TGGGAGTCT GCTCAGGGAG AAATGACAAG TCTGGCGGGG ACAAGTATGG GATTGTGTAA
 GACTTGGATC AACTTGGGAT ACAGGGTGGG GGTGCGGAGT GGAATCAATG AATGATGCCA GAGCAGATCA
 ACTAACAAGA GGACCTGAT GAGCCCCAGG CAGAGGCGTC TCCCTTATGC CCCACTCTGA AGTGTGTGT
 AGTAAACACC AGAACGCCAT TGTGTGTTACT GCTGAATTTT ATTTTGGGCT GTACATATTT AGATGCTTAA
 GGTAATAATG ATAAAGCCCT CAAGCCACTG TGTGGGTTTG GGTCCAAGTG TTCCTTCTTG CTGCCTCTCT
 15 AACACGCTG GTTAAATAA TCCCTTTGGA TGGTGCTGAG AAGCACCTGA ACCAAGTGGG TCCCCAAATA
 ACAATGGCGT GCAAGTGTCT GGTTCGCGA AGTTGGTGAC TAGGTAAGCA GCTTCAGGGA GAGGGGGCTG
 ATTCCACAG AGTCGCGGT TCCTGCGGGG ATGGGGCTGA GGCTTGGGGA ATGTGGGCAG GAGGATATGC
 CATTGTATTC TGTGACAC GTTCTTTTCC CTTCTTCTG TATGTCTGGT CATTCTGCTA TTCTGTCTGT
 CCTCACATAG GTTGACATT GGCGGCTGC CAGCATAAGT GCCAGTGTGA TTTTGCTAGG TGTGAGCTGA
 20 GAAAGAGAGG TGGAGGCTAA GCAGGTGTGA TGCTTCTCAG AGGTGCTGAG TTTTGGCCT TCTGAGCAGG
 GAATCTTTCG TTATCCCTTT GACCAAGGAT CTTTGCTGCA AAGGCTGGGT ATCGGCTGTG CTCAGCAAAG
 CGTCAACTCG TGCAAGAACT TAGCAGGAAT AGTTCTGGCT AAGGTTAGGA GGCTGCCACC AAAGTCTCTT
 TTTTGTTCCT CTGCTCTCC CGTTTGCCCT CTTATCATGA GATCTTTTGG CTAAGCTGGC AGAAAGATTG
 CATAGTCAGT GCTCCAGCT CTGCTCCAC CTGATCTGC ACTGTCTCT GGTCCCTGAA TGAATGAAT
 25 CTGATACCCA ATCTGTCTC GAGCCTTCTC TATGCCACTC ATGGCTCTC TTCTGTCTT TCCATCTTTT
 TGCTGAGAGT TCTAGCTCT GTACTTCCTC TTGGCCATC TCACTTCCTG AAACACCCCT GAAGAGGGTT
 GCTTATCTTG ATGGAAGTCA AAAAGCCAAA AAGCTGCAGG CAGAGGCGTT GAGGACATCT GTTTGGGGAA
 CTAAGAGCAG CAGCACTTTC AGATTCAGT CATATAGAGC TGTCCTACAG CATTCTGGA ACTTGAGGAT
 GTGCGGTGCA TAAAGGGGCT GGAAGTGACC CACCTGTGAT GAGCCCTTC TAAGGAGAAG GGTTCGGAAG
 30 AGATCACCCC ACCAGAAAAG GGTAGGAATG AGCAAGTTGG GAATTTTAGA CTGTACTGCT ACATGGACCT
 CTGGGAAGAC GTCTGGCGAG AGCTAGGCCC ACTGGCCCTA CAGACGGATC TTGTGGCTC ACCTGTCCCT
 GTGGAGGTTT CCCTGGGAAG GCAAGATGCC CAACAACAGC ACTGCTCTGT CATTGGCCAA TGTTACCTAC
 ATCACCATGG AAAATTTTCAT TGGACTCTGC GCCATAGTGG GCAACGTGCT GGTCTCTGCT GTGGTCAAGC
 TGAACCCAG CCTGACAGACC ACCACCTTCT ATTTCTAGT CTCTCTAGCC CTGGCTGACA TTGCTGTGTTG
 35 GGTGCTGGTC ATGCTTTTGG CCATGTGTTG CAGCCTGGGC ATCACAATCC ACTTCTACAG CTGCCTTTT
 ATGACTTGCC TACTGCTTAT CTTTACCCAC GCCTCCATCA TGTCTTGTG GGCCATCGCT GTGGACCGAT
 ACTTGCGGGT CAAGCTTACC GTCAGGTAGC CTGCGGCGTG GGGTGGGCAG CAATTGAGGC AGCTGGGAAA
 TGAGGCTACA AAGCAGAGC CTGCTGAATT TTATTTTGGG CTGTACATAT TTAGATGCTT AAGGTAAAAA
 40 TGATAAAGCC CTCAGCCAC TGTGTGGGTT GGGTCCAAGT GTTCCTTGT GCTGCCTCTC TAACACGCCT
 GGTTAAAAATA ATCCCTTGG ATGGTCTGA GAAGCACTG AACCAGTGG GTCCCCAAAT AACTATGGCG
 TGCAAGTGTG TGGTTCAGG AAGTTGGTGA CTAGGTAAGC GACTCAGGGA GAGGGGCTGA TTCCAGACA
 GTCGCTGTT CTGTGGGA TGGGGCTGAG GCTTGGGGAA TGTGGGCAGG AGGATATGCC ATTTGATTCT
 GTTGACATG TTTTCTTCC TTCTTTCTGT ATGTCTGGT ATTCTGCTAT TCTGTCTGTT CTCACATAGG
 45 TTGGAGATTG GCGGCTGCC AGCATAAGTG CCAGTGTGAT TTTGCTAGG TGTGAGCTGA GAAAGAGAGG
 TGGAGGCTAA GCAGGTGTGA TGCTTCTCAG AGGTGCTGAG TTTTGGCCT TCTGAGCAGG GAATCTTTC
 TTATCCCTTT GACCAAGGAT CTTTGCTCCA AAGGCTGGGT ATCGGCTGTG CTCAGCAAAG CGTCAACTCG
 TGCAAGAACT TAGCAGGAAT AGTCTGGCT AAGGTTAGGA GGCTGCCACC AAAGTCTCTT TTTTGTTCCT
 CTGCTTCTCC CGTTTGCCTC CTTATCATGA GATCTTTTGG CTAAGCTGGC AGAAAGATTG CATAATCAGT
 50 GCTTCCAGCT CCGCTCCAC CTGATCCTGC ACTGCTCTCT GGTCCCTGAA TGAATGAAT CTGATACCCA
 ATCTTGTCTC GAGCTTCTC TATGCCACTC ATGGCTCTCT TTCTGCTCTT TCCATCTTTT TGCTGAGAGT
 TACTGAGCTC TGTACTTCT CTGCCCCAT CTCAGTCTCT GAAACACCCC TGAAGAGGGT TGCTTATCTT
 GATGGAAGT AAAAGGCCAA AAAGCTGCAG GCAGAGGCGT TGAGGACATC TGTGGGGGA ACTAAGAGCA
 GCAGCACTTT CAGATTAGT CCATATAGAG CTGTCTTACA GCATTCTGGA AACTTGAGGA TGTGCGGTGC
 ATAAAGGGGC TGGAGTGAC CCACCTGTGA TGAGCCCTTT CTAAGGAGAA GGGTTTCAA GAGATCACCC
 55 CACCAGAAAA GGGTAGGAAT GAGCAAGTTG GGAATTTTAG ACTGTACTG CACATGGACC TCTGGGAAGA
 CGTCTGGCGA GAGCTAGGCC CACTGGCCCT ACAGACGGAT CTGTGCTGGT CACCTGTCCC TGTGGAGGTT
 CCCCTGGGAA GGCAGATGC CCAACAACAG CACTGCTCTG CGAATTCGGG GGACATCTGT TTGGGGAAGT
 AAGAGCAGCA GCACTTTCAG ATTCAGTCCA TATAGAGCTG TCCTACAGCA TTCTGGAAAC TTGAGGATGT
 GCGGTGCATA AACC GGCTGG AAGTGACCCA CCTGTGATGA GCCCTTTCTA AGGAGAAGGG TTCCAAGAG

004040 " 6294560

ATCACCCAC CAGAAAAGGG TAGGAATGAG CAAGTTGGGA ATTTAGACT GTCAGTGCAC ATGGACCTCT
 GGGGAAGACGT CTGCGGAGAG CTAGGCCAC TGGCCCTACA GACGGATCTT GCTGGCTCAC CTGTCCCTGT
 GGAGGTTCCC CTGGGAAGGC AAGATGCCCA ACAACAGCAC TGCTCTGTCA TTGGCCAATG TTACCTACAT
 CACCATGGAA ATTTTCATTG GACTCTGCGC CATAGTGGGC AACGTGCTGG TCATCTGCGT GGTCAAGCTG
 5 AACCCAGCC TGCAGACCAC CACCTTCTAT TTCATTGTCT CTCTAGCCCT CACAATCCAC TTCTACAGCT GCCTTTTAT
 TGCTGGTCAT GCCTTTGGCC ATTGTTGTCA GCCTGGGCAT CACAATCCAC TTCTACAGCT GCCTTTTAT
 GACTTGCTTA CTGCTTATCT TTACCCACGC CTCCATCATG TCCTTGCTGG CCATCGCTGT GGACCGATAC
 TTGCGGGTCA AGCTTACCGT CAGATACAAG AGGGTCACCA CTCACAGAAG AATATGGCTG GCCCTGGGCC
 TTTGCTGGCT GGTGTCATTC CTGGTGGGAT TGACCCCAT GTTTGGCTGG AACATGAAAC TGACCTCAGA
 10 GTACCACAGA AATGTCACCT TCCTTTCATG CCAATTGTG TCCGTCATGA GGATGGACTA CATGGTATAC
 TTCAGCTTCC TCACCTGGAT TTTCATCCCC CTGGTTGTCA TGTGCGCCAT CTATCTTGAC ATCTTTTACA
 TCATTCCGAA CAAACTCAGT CTGAACTTAT CTAAGTCCAA AGAGACAGGT GCATTTTATG GACGGGAGTT
 CAAGACGGCT AAGTCTCTGT TTCTGGTTCT TTTCTGTGTT GCTCTGTCT GGTGCTCTT ATCTCTCATC
 AACTGCATCA TCTACTTTAA TGGTGAGGTA CCACAGCTTG TGCTGTACAT GGGCATCCTG CTGTCCCATG
 15 CCAACTCCAT GATGAACCCT ATCGTCTATG CCTATAAAAT AAAGAAGTTC AAGGAAACCT ACCTTTTGAT
 CCTCAAAGCC TGTGTGGTCT GCCATCCCTC TGATTCCTTG GACACAAGCA TTGAGAAGAA TTCTGAGTAG
 TTATCCATCA GAGATGACTC TGTCTCATTG ACCTTCAGAT TCCCCATCAA CAAACACTTG AGGCCTGTA
 TGCCTGGGCC AAGCTGATTTT TACATCCTTG ATTACTTCCA CTGAGGTGGG AGCATCTCCA GTGCTCCCA
 ATTATATCTC CCCCCTCCA CTACTCTCTT CCTCCACTTC ATTTTCTCTT TGTCCTTTCT CTCTAATTCA
 20 GTGTTTTGGA GGCCTGACTT GGGGACAACG TATTATTGAT ATTATTGTCT GTTTTCTTCT TTCCAATAG
 AAGAATAAGT CATC GAGCCT GAAGGTGCC TAGTTGACTT ACTGACAAAA GGCTCTAGTT GGGCTGAACA
 TGTGTGTGGT GGTGACTCAT TTCCATGCCA TTGTGGAATT GAGCAGAGAA CCTGCTCTCG GAGGATGCCT
 AGGAGATGTT GGGAAACAGAA GAAATAAACT GAGTTTAAGG GGGACTTAAA CTGCTGAATT C -3' (FRAG.
 NO:1675) (SEQ. ID NO:3007)
 25 5'- CGAATTCGGG GCACATCTGT TTGGGGAAGT AAGAGCAGCA GCACTTTCAG ATTCAGTCCA TATAGAGCTG
 TCCTACAGCA TTCTGGAAAC TTGAGGATGT GCGGTGCATA AACGGGCTGG AAGTGACCCA CCTGTGATGA
 GCCCTTTCTA AGGAAGAAGG TTTCCAAGAG ATCACCCAC CAGAAAAGGG TAGGAATGAG CAAGTTGGGA
 ATTTTAGACT GTCACTGCAC ATGGACCTCT CTGGCGAGAG CTAGGCCAC TAGGCCACATA TGGCCCTACA
 30 GACGGATCTT GCTGCTCAC CTGTCCCTGT GGAGGTCCC CTGGGAAGGC AAGATGCCCA ACAACAGCAC
 TGCTCTGTCA TTGGCAATG TTACCTACAT CACCATGGAA ATTTTCATTG GACTCTGCGC CATAGTGGGC
 AACGTGCTGG TCATCTGCGT GGTCAAGCTG AACCCAGCC TGCAGACCAC CACCTTCTAT TTCATTGTCT
 CTCTAGCCCT GGCTGACATT GCTGTTGGGG TGCTGGTCAT GCCTTTGGCC ATTGTTGTCA GCCTGGGCAT
 CACAATCCAC TTCTACAGCT GCCTTTTAT GACTTGCTTA CTGCTTATCT TTACCCACGC CTCCATCATG
 TCCTTGCTGG CCATCTGCTG GGACCGATAC TTGCGGGTCA AGCTTACCGT CAGATACAAG AGGGTCACCA
 35 CTCACAGAAG AATATGGCTG GCCCTGGGCC TTTGCTGGCT GGTGTCATTC CTGGTGGGAT TGACCCCAT
 GTTTGGCTGG AACATGAAAC TGACCTCAGA GTACCACAGA AATGTCACCT TCCTTTCATG CCAATTGTGTT
 TCCGTCATGA GGATGGACTA CATGGTATAC TTCAGCTTCC TCACCTGGAT TTTCATCCCC CTGGTTGTCA
 TGTGCGCCAT CTATCTTGAC ATCTTTTACA TCATTGCGAA CAAACTCAGT CTGAACTTAT CTAAGTCCAA
 AGAGACAGGT GCACTTTATG GACGGGAGTT CAAGACGGCT AAGTCTTGT TTCTGGTTCT TTTCTGTTT
 40 GCTCTGTCTAT GGCTGCTTT ATCTCTCATC AACTGCATCA TCTACTTTAA TGGTGAGGTA CCACAGCTTG
 TGCTGTACAT GGGCATCCTG CTGTCCCATG CCAACTCCAT GATGAACCCT ATCGTCTATG CCTATAAAAT
 AAAGAAGTTC AAGGAAACCT ACCTTTTGAT CCTCAAAGCC TGTGTGGTCT GCCATCCCTC TGATTCTTTG
 GACACAAGCA TTGAAGAAGAA TTCTGAGTAG TTATCCATCA GAGATGACTC TGTCTCATTG ACCTTCAGAT
 TCCCCATCAA CAAACACTTG AGGCCTGTA TGCCTGGGCC AAGGGATTTT TACATCCTTG ATTACTTCCA
 45 CTGAGGTGGG AGCATCTCCA GTGCTCCCA ATTATATCTC CCCCCTCCA CTACTCTCTT CCTCCACTTC
 ATTTTCTCTT TGTCCTTTCT CTCTAATTCA GTGTTTTGGA GGCCTGACTT GGGGACAACG TATTATTGAT
 ATTATTGTCT GTTTTCTTCT TTCCAATAG AAGAATAAGT CATGGAGCCT GAAGGGTGCC TAGTTGACTT
 ACTGACAAAA GGCCTAGATT GGGCTGAACA TGTGTGTGGT GGTGACTCAT TTCCATGCCA TTGTGGAATT
 GAGCAGAGAA CCTCTCTCG GAGGATGCCT AGGAGATGTT GGGAAACAGAA GAAATAAACT GAGTTTAAGG
 50 GGGACTTAAA CTGCTGAATT C -3' (FRAG. NO:) (SEQ. ID NO:2439)
 5'- CTGCTGAATT TTATTTGGA CTGTACATAT TAGATGCTT AAGGTAAAAA TGATAAAGCC CTCAAGCCAC
 TGTGTGGGTT GGGTCCAAGT GTTCTTGCT GCTGCCTCTC TAACACGCCCT GGTAAAAATA ATCCCTTTGG
 ATGGTGCTGA GAACACCTG AACCAAGTGG GTCCCAAAAT AACTATGGCG TGCAAGTGTC TGGTTCACAG
 AAGTTGGTGA CTAGGTAAGC GACTCAGGGA GAGGGGCTGA TTCCAGACA GTCGCTGTT CCTGCTGGGA
 55 TGGGGCTGAG GCTTGGGGAA TGTGGGCAGG AGGATATGCC ATTTGATTCT GTTGACACAG TTCTTTTCCC
 TTCTTTCTGT ATGTTTGGTC ATTCTGCTAT TCTGTCGTT CTCACATAGG TTGGACATTG GCCGGCTGCC
 AGCATAAGTG CCAGTGTGAT TTTGCTAGGG TGTGAGCTGA GAAAGAGAGG TGGAGGCTAA GCAGGTGTGA
 TGCTTCTCAG AGGTGCTGAG TTTTGCCCT TCTGAGCAGG GAATCTTTGC TTATCCCTTT GACCAAGGAT
 CTTTGCTCCA AAGGTGGGT ATCGGCTGTG CTCAGCAAAG CGTCAACTCG TGCAAGAAGT TAGCAGGAAT

TCCGTCATGA GGA1GGACTA CATGGTATAC TTCAGCTTCC TCACCTGGAT TTTCATCCCC CTGGTTGTCA
 TGTGCGCCAT CTATCTTGAC ATCTTTTACA TCATTCGGAA CAAACTCAGT CTGAACTTAT CTAACCTCAA
 AGAGACAGGT GCA' TTTATG GACGGGAGTT CAAGACGGCT AAGTCCTTGT TTCTGGTCTT TTTCTTGTIT
 GCTCTGTATC GGCTGCCTTT ATCTCTCATC AACTGCATCA TCTACTTTAA TGGTGAGGTA CCACAGCTTG
 5 TGTCTGTACAT GGGCATCCTG CTGTCCCATG CCAACTCCAT GATGAACCCT ATCGTCTATG CCTATAAAAT
 AAAGAAGTTC AAGGAAACCT ACCTTTTGAT CCTCAAAGCC TGTGTGGTCT GCCATCCCTC TGATTCTTTG
 GACACAAGCA TTGA/GAAGAA TTCTGAGTAG TTATCCATCA GAGATGACTC TGTCTCATTG ACCTTCAGAT
 TCCCCATCAA CAA' CACTTG AGGGCCTGTA TGCCTGGGCC AAGGGATTTT TACATCCTTG ATTACTTCCA
 CTGAGGTGGG AGCACTCTCCA GTGCTCCCCA ATTATATCTC CCCCCTCCA CTACTCTCTT CCTCCACTTC
 10 ATTTTTCCTT TGCTCTTTCT CTCTAATTCA GTGTTTTGGA GGCCTGACTT GGGGACAACG TATTATTGAT
 ATTATTGTCT GTTT' CCTTC TTCCCAATAG AAGAATAAGT CATGGAGCCT GAAGGGTGCC TAGTTGACTT
 ACTGACAAAA GGC'CTAGTT GGGCTGAACA TGTGTGTGGT GGTGACTCAT TTCCATGCCA TTGTGGAATT
 GAGCAGAGAA CCTC CTCTCG GAGGATGCCT AGGAGATGTT GGGAACAGAA GAAATAAACT GAGTTTAAGG
 GGGACTTAAA CTGCTGAATT C -3' (FRAG. NO:) (SEQ. ID NO:2427)
 15 5'-TTCCAG ATGGGACAGAG GTGGCTGGGC TGGTGACCCT AAGTGTGTCT CCTGCCTTTA TTCTCTCTAG
 TGGGTATTTC TTTCATGTGG TATCTTGCCT ACAGCATGCT GTGTTTGGAC ACAACCCCTT TTCCTTGGTT
 TCTCTGACCC AGCTGAGATG GACTGATTCC AAAAGAACTC ACCTATGTAC TGGGGTAGGG GAGGGAGGGT
 TTTTTCAGT ATTTAACTAA GGTCAAAGA GTGCTATATA GTGAGAAAGG CTCTTTTTTT TTTTTTTTTT
 TTTTTTGGCA GAGTGTCTGCC TCCTAGAAAT TTCTCTTGGT AACTTCCTTC TCTGAAGCAC AGATAAAGAA
 20 AACAATTACA GTACAAACAT TTATGAGGGA CACATTGGAG GCCGATGAAG CTTTTCAAGT TCCAGCAGTG
 CAGGGATGTG GGC'GAAGT ACATTGGAAA ATACTAGAAT GATGGAAATT CAGTTGGAGA GGACTGCCCT
 TTTTAATGTC TGGG'GAGTCT GCTCAGGGAG AAATGACAAAG TCTGGCGGGG ACAAGTATGG GATTGGTAA
 GACTTGGATC AACTTGGGAT ACAGGGTGGG GGTGGGAGT GGAATCAATG AATGATGCCA GAGCAGATCA
 ACTAACAAGA GGA'CTGTAT GAGCCCCAGG CAGAGGCGTC TCCCTTATGC CCCACTCTGA AGTGTTTGTT
 25 AGTAAACACC AGA'ACGCCAT TGTGTGTACT GCTGAATTTT ATTTTGGGCT GTACATATTG AGATGCTTAA
 GGTAAAAATG ATAAAGCCCT CAAGCCACTG TGTGGGTTTG GTTCCAAGTG TTCTTCTTGT CTGCTCTCT
 AACACGCTG GTTAAATAAA TCCTTTTGA TGGTGCTGAG AAGCACCTGA ACCAAGTGGG TCCCCAAATA
 ACAATGGCGT GCA'GTGTCT GGTCCCAGA AGTTGGTGAC TAGGTAAGCA GCTTCAGGGA GAGGGGGCTG
 ATTCCCAGAC AGTCGCCTGT TCCTGCGGGG ATGGGGCTGA GGCTTGGGGA ATGTGGGCAG GAGGATATGC
 30 CATTTGATTC TGTTCACAC GTTCTTTTCC CTCTTTCTG TATGTCTGGT CATCTGCTA TTCTGTCTGT
 CCTCACATAG GTTGGACATT GGCCGGCTGC CAGCATAAGT GCCAGTGTGA TTTTGCTAGG TGTGAGCTGA
 GAAAGAGAGG TGGAGGCTAA GCAGGTGTGA TGCTTCTCAG AGGTGCTGAG TTTTGGCCT TCTGAGCAGG
 GAATCTTTGC TTAT'CTTTT GACCAAGGAT CTTTGCTGCA AAGGCTGGGT ATCGGCTGTG CTCAGCAAAG
 CGTCAACTGC TGCAAGAACT TAGCAGGAAT AGTTCTGGCT AAGGTTAGGA GGCTGCCACC AAAGTCTCTT
 35 TTTTGTCTCT CTGCTTCTCC CGTTTGCCTC CTATCATGA GATCTTTTGT CTAAGCTGGC AGAAAGATTG
 CATAGTCAGT GCTTCCAGCT CTGCTCCAC CTGATCTGC ACTGTCCTCT GGTCCCTGAA TGAATGAACT
 CTGATACCCA ATCTGTCTC GAGCCTTCTC TATGCCACTC ATGGCTCCTC TTCTGTCTT TCCATCTTTT
 TGCTGAGAGT TCTGAGCTCT GTACTTCTC TTGGCCATC TCACTTCTG AAACACCCCT GAAGAGGGTT
 GCTTATCTTG ATGGA'ACTCA AAAAGCCAAA AAGCTGCAGG CAGAGGCGTT GAGGACATCT GTTTGGGGAA
 40 CTAAGAGCAG CAGCACTTTC AGATTCAAGT CATATAGAGC TGTCTACAG CATCTGGAA ACTTGAGGAT
 GTGCGGTGCA TAA'GGGGCT GGAAGTGACC CACCTGTGAT GAGCCCTTTC TAAGGAGAAG GGTTC'CAAG
 AGATACCCCC ACCAGAAAAG GGTAGGAATG AGCAAGTTGG GAATTTTGA CTGTCACTGC ACATGGACCT
 CTGGGAAGAC GTC'GGCGAG GCTAGGCC ACTGGCCCTA CAGACGGATC TTGTGGCTC ACCTGTCCCT
 GTGGAGGTTT CCTC'GGAAG GCAAGATGCC CAACAACAGC ACTGCTCTGT CATTGGCCAA TGTTACCTAC
 45 TCACCATGG AAAT'TTTAT TGGACTCTGC GCCATAGTGG GCAACGTGCT GGTCACTCTG GTGTCAAGC
 TGAACCCAG CCTG'GAGACC ACCACCTTCT ATTTCAATTGT CTCTCTAGCC TGGCTGACA TTGCTGTTGG
 GGTGCTGGTC ATG'CTTTGG CCATTGTTGT CAGCCTGGGC TCACAATCC ACTTCTACAG CTGCCTTTTT
 ATGACTTGCC TACT'GCTTAT CTTTACCCAC CCTCCATCA TGTCTTGTCT GGCCATCGCT GTGGACCGAT
 ACTTGGGGGT CAAGCTTACC GTCAGGTAGC CTGCGGCGTG GGGTGGGCAG CAATTGAGGC AGCTGGGAAA
 50 TGAGGCTACA AGCC'GAGC-3' (FRAG. NO:) (SEQ. ID NO:2426)
 5'-GGGCAATTTG TTA'GTTATCC GCCGCCACCA AGACGCGGCA CGGCGCCTGG ACCGGAGGGG CCCC'GCGCGG
 GCGCGA'CTT TGGGCTCGGG CGAGTGGGTG GTGCTCCGCC CAGCCCGAGA CGGGCGGGCG CGCGGGCCAA
 TGGGTGCCGC CTCT'GGCCG CGGGGGGGCC CGACCCGTGG GTCCCGGCCA CCAGCGCCCC AGCCCCGAGG
 CTCAGAAGCG GCAC'GCGGAG GCGCGGTCCG GCGGCTATGG CCATGCCCGG CGGGTCTCAC GCGGCTGCCC
 55 CTCGCCCGGC GCGC'CTTCGG TAGGGGGCGC CCGGGGGCCA GCTGGCCCGG CCATGCTGCT GGAGACACAG
 GACGCGCTGT ACGT'GGCGCT GGAGCTGGTC ATCGCCGCGC TTTCGGTGGC GGGCAACGTG CTGGTGTGCG
 CCGCGGTGGG CACG'GCGAAC ACTCTGCAGA CGCCACCAA CTACTTCTG GTGTCCCTGG CTGCGGCCGA
 CGTGGCCGTG GGG'CTCTCG CCATCCCTT TGCCATACC ATCAGCCTGG GCTTCTGCAC TGACTTCTAC
 GGCTGCCTCT TCCT'CGCCTG CTCTGTGCTG GTGCTCACGC AGAGCTCCAT CTTCAGCCTT CTGCGCGTGG

004040 " 62943560

- CAGTCGACAG ATACCTGGCC ATCTGTGTCC CGCTCAGGTA TAAAAGTTTG GTCACGGGGA CCCGAGCAAG
 AGGGGTCATT GCTC TCCTCT GGGTCCTTGC CTTTGGCATC GGATTGACTC CATTCTGGG GTGGAACAGT
 AAAGACAGTG CCACCAACAA CTGCACAGAA CCCTGGGATG GAACCACGAA TGAAAGCTGC TGCCTTGTGA
 AGTGTCTCTT TGAGAATGTG GTCCCATGA GCTACATGGT ATATTTCAAT TTCTTTGGGT GTGTTCTGCC
 5 CCCACTGCTT ATAAIGCTGG TGATCTACAT TAAGATCTTC CTGGTGGCCT GCAGGCAGCT TCAGCGCACT
 GAGCTGATGG ACCA CTCGAG GACCACCCTC CAGCGGGAGA TCCATGCAGC CAAGTCACTG GCCATGATTG
 TGGGGATTTT TGCCCTGTGC TGGTTACCTG TGCATGCTGT TAACTGTGTC ACTCTTTTCC AGCCAGCTCA
 GGGTAAAAAT AAGCCCAAGT GGGCAATGAA TATGGCCATT CTTCTGTCAC ATGCCAATTC AGTTGTCAAT
 CCCATTGTCT ATGCTTACCG GAACCGAGAC TTCCGCTACA CTTTTCACAA AATTATCTCC AGGTATCTTC
 10 TCTGCCAAGC AGATGTCAAG AGTGGGAATG GTCAGGCTGG GGTACAGCCT GCTCTCGGTG TGGGCCTATG
 ATCTAGGCTC TCGCTCTTC CAGGAGAAGA TACAAATCCA CAAGAAACAA AGAGGACACG GCTGGTTTTC
 ATTTGTAAAG ATACCTACAC CTCACAAGGA AATGGACTGC CTCTCTTGAG CACTTCCCTG GAGCTACCAC
 GTATCTAGCT AATATGTATG TGTCAGTAGT AGGCTCCAAG GATTGACAAA TATATTATG ATCTATTGAG
 CTGCTTTTAC TGTGIGGATT ATGCCAACAG CTTGAATGGA TTCTAACAGA CTCTTTTGTT TTTAAAAGTC
 15 TGCCTTGTTT ATGGIGGAAA ATTACTGAAA CTATTTTACT GTGAAACAGT GTGAACTATT ATAATGCAAA
 TACTTTTAA CTTAGAGGCA ATGGAAAAAT AAAAGTTGAC TGTACTAAAA ATG-3' (FRAG. NO:) (SEQ. ID NO:2425)
 5'-GBG CB TGC-3' (FRAG. NO:1676) (SEQ. ID NO:1691)
 5'-TTG TTG GGC-3' (FRAG. NO:1677) (SEQ. ID NO:1692)
 5'-TGC CTT CCC BGG 3-3' (FRAG. NO:1678) (SEQ. ID NO:1693)
 20 5'-GTT GTT GGG CAT CTT GCC-3' (FRAG. NO:1679) (SEQ. ID NO:3)
 5'-GTG GGC CTA GCT CTC GCC-3' (FRAG. NO:1680) (SEQ. ID NO:5)
 5'-ACA GAG CA TGC TGT TGT TGG GCA TCT TGC CTT CCC AGG G-3' (FRAG 982) (SEQ. ID NO: 992)
 5'-BCB GBG CB TGC TGT TGT TGG GCB TCT TGC CTT CCC BGG G-3' (FRAG 983) (SEQ. ID NO: 993)
 5'-CCC TTT TCT GGT GGG GTG-3' (FRAG 984) (SEQ. ID NO: 994)
 25 5'-GTG CTG TTG TTG 3GC-3' (FRAG 985) (SEQ. ID NO: 995)
 5'-TTT CTT CTG TTC CC-3' (FRAG 986) (SEQ. ID NO: 996)
 5'-CCC TTT TCT GGT GGG GTG-3' (FRAG 987) (SEQ. ID NO: 997)
 5'-GTG CTG TTG TTG 3GC-3' (FRAG 988) (SEQ. ID NO: 998)
 5'-TTT CTT CTG TTC CC-3' (FRAG 989) (SEQ. ID NO: 999)
 30 **Human IgE Receptor β Nucleic Acid and Antisense Oligonucleotide Fragments**
 5'-TTT CCC CTG GGT CTT CC CTC CTG CTC TTT TTT C ATT TGC TCT CCT ATT ACT TTC TGT GTC CAT TTT
 TTC ATT AAC CGA GCT GT BTT TGC TCT CCT BTT BCT TTC TGT GTC CBT TTT TTC BTT BBC CGB GCT GT-3'
 (FRAG. NO:1681) (SEQ. ID NO:1694)
 5'-CCC CTG GG-3' (FRAG. NO:1682) (SEQ. ID NO:1695)
 35 5'-GCTCTCCTBTT-3' (FRAG. NO:1683) (SEQ. ID NO:1696)
 5'-CBTTBBCCGBGCTG 3' (FRAG. NO:1684) (SEQ. ID NO:1697)
 5'-TTT CCC CTG GGT CTT CC-3' (FRAG 990) (SEQ. ID NO: 1000)
 5'-CTC CTG CTC TTT TTT C-3' (FRAG 991) (SEQ. ID NO: 1001)
 ATTTGCTCTCCTATTACTTTCTGTGTCCATTTTTCATTAACCGAGCTGT (FRAG 992) (SEQ. ID NO: 1002)
 40 BTTTGCTCTCCTBTTBCTTTCTGTGTCCBTTTTCBTTBBCCGBGCTGT (FRAG 993) (SEQ. ID NO: 1003)
Human Fc ϵ Receptor CD23 Antigen (IgE Receptor) Nucleic Acid and Antisense Oligonucleotide Fragments
 5'-GCC TGT GTC TGT CCT CCT GCT TCG TTC CTC TCG TTC CTG CTT GGT GCC CTT GCC G GTC CTG CTC CTC
 CGG GCT GTG G GTC GTG GCC CTG GCT CCG GCT GGT GGG CTC CCC TGG CCT TCG CTG GCT GGC GGC GTG
 45 C GGG TCT TGC TCT GGG CCT GGC TGT GGC CGT GGT TGG GGG TCT TC GCT GCC TCC GTT TGG GTG GC TCT
 CTG AAT ATT GAC CTT CCT CCA TGG CGG TCC TGC TTG GAT TCT CCC GA TCT CTG BBT BTT GBC CTT CCT
 CCB TGG CGG TCC TC CTG GBT TCT CCC GB-3' (FRAG 1685) (SEQ. ID NO:1698)
 5'-GT CCT CCT-3' (FRAG 1686) (SEQ. ID NO: 1699)
 5'-TGT GTC TGT CCT CC-3' (FRAG 1687) (SEQ. ID NO: 1700)
 50 5'-GTG GCC CTG GC-3' (FRAG 1688) (SEQ. ID NO: 1701)
 5'-CGT GGT TGG GG-3' (FRAG 1689) (SEQ. ID NO: 1702)
 5'-TCT CTG BBT BTT GBC C-3' (FRAG1690) (SEQ. ID NO:1703)
 5'-GCC TGT GTC TGT CCT CCT-3' (FRAG 994) (SEQ. ID NO: 1004)
 5'-GCT TCG TTC CTC TCG TTC-3' (FRAG 995) (SEQ. ID NO:1005)
 55 5'-CTG CTT GGT GCC CTT GCC G-3' (FRAG 996) (SEQ. ID NO: 1006)
 5'-GTC CTG CTC CTC CGG GCT GTG G-3' (FRAG 997) (SEQ. ID NO: 1007)
 5'-GTC GTG GCC CTG GCT CCG GCT GGT GGG CTC CCC TGG-3' (FRAG 998) (SEQ. ID NO: 1008)
 5'-CCT TCG CTG GCT GGC GGC GTG C-3' (FRAG 999) (SEQ. ID NO: 1009)

5'-GGG TCT TGC TCT GGG CCT GGC TGT-3' (FRAG 1000) (SEQ. ID NO: 1010)

5'-GGC CGT GGT TGG GGG TCT TC-3' (FRAG 1001) (SEQ. ID NO: 1011)

5'-GCT GCC TCC GTT IGG GTG GC (FRAG 1002) (SEQ. ID NO: 1012)

5'-TCT CTG AAT ATT GAC CTT CCT CCA TGG CGG TCC TGC TTG GAT TCT CCC GA (FRAG 1003) (SEQ. ID NO: 1013)

5'-TCT CTG BBT BTT (BCB CTT CCT CCB TGG CGG TCC TGC TTG GBT TCT CCC GB (FRAG 1004) (SEQ. ID NO: 1014)

Human IgE Receptor α Subunit Nucleic Acid and Antisense Oligonucleotide Fragments

5'-GCC TTT CCT GGT TCT CTT GTT GTT TTT GGG GTT TGG CTT ACA GTA GAG TAG GGG ATT CCA TGG CAG
GAG CCA TCT TCT TCA TGG ACT CC TTC AAG GAG ACC TTA GGT TTC TGA GGG ACT GCT AAC ACG CCA TCT
GGA GC BCB GTB GEG TBG GGG BTT CCB TGG CBG GBG CCB TCT TCT TCB TGG BCT CC TTC BBG GBG BCC
TTB GGT TTC TGB GCG BCT GCT BBC BCG CCB TCT GGB GC GTT GTT TTT GGG GTT TGG CTT GCC TTT CCT
GGT TCT CTT BCB GIB GBG TBG GGG BTT CCB TGG CBG GBG CCB TCT TCT TCB TGG BCT CC TTC BBG GBG
BCC TTB GGT TTC TGB GGG BCT GCT BBC BCG CCB TCT GGB GC-3' (FRAG. NO: 1691) (SEQ. ID NO: 1704)

5'-TGG BCT CC -3' (FRAG. NO: 1692) (SEQ. ID NO: 1705)

5'-CCB TCT GGB-3' (FRAG. NO: 1693) (SEQ. ID NO: 1706)

5'-CT GCT BBC BCG-3' (FRAG. NO: 1694) (SEQ. ID NO: 1707)

5'-GTT TTT GGG GTT TG-3' (FRAG. NO: 1695) (SEQ. ID NO: 1708)

5'-GCC TTT CCT GGT TCT CTT GTT GTT TTT GGG GTT TGG CTT-3' (FRAG. NO: 1005) (SEQ. ID NO: 1015)

5'-ACAGTAGAGTAGGGATTCCATGGCAGGAGCCATCTTCTTCATGGACTCC-3' (FRAG. NO: 1006) (SEQ. ID NO: 1016)

5'-TTC AAG GAG ACC TTA GGT TTC TGA GGG ACT GCT AAC ACG CCA TCT GGA GC-3' (FRAG. NO: 1007) (SEQ. ID NO: 1017)

5'-BCB GTB GBG TBG GGG BTT CCB TGG CBG GBG CCB TCT TCT TCB TGG BCT CC TTC BBG GBG BCC TTB GGT
TTC TGB GGG-3' (FRAG. NO: 1008) (SEQ. ID NO: 1018)

5'-BCT GCT BBC BCG CCB TCT GGB GC-3' (FRAG. NO: 1009) (SEQ. ID NO: 1019)

5'-GTT GTT TTT GGG GTT TGG CTT-3' (FRAG. NO: 1010) (SEQ. ID NO: 1020)

5'-GCC TTT CCT GGT TCT CTT-3' (FRAG. NO: 1011) (SEQ. ID NO: 1021)

5'-BCBGTBGBGTBGGGGBTTCBTTGGCBGGBCCBCTTCTTCTBTTGGBCTCC-3' (FRAG. NO: 1012) (SEQ. ID NO: 1022)

5'-TTC BBG GBG BCC TTB GGT TTC TGB GGG BCT GCT BBC BCG CCB TCT GGB GC-3' (FRAG. NO: 1013) (SEQ. ID NO: 1023)

Human IgE Receptor (Fc Epsilon R) Nucleic Acid and Antisense Oligonucleotide Fragments

5'-GCC TGT GTC TGT CCT CCT GCT TCG TTC CTC TCG TTC CTG CTT GGT GCC CTT GCC G GTC CTG CTC CTC
CGG GCT GTG G GTC CTC GCC CTG GCT CCG GCT GGT GGG CTC CCC TGG CCT TCG CTG GCT GGC GGC GTG C
CCC BGB BCG BGB CCC GGB CCG BCB GGC CGT GGT TGG GGG TCT TC GCT GCC TCC GTT TGG GTG GC GAT
CTC TGA ATA TTGA CCT TCC ATG GCG GTC CTG CTT GGA GBT CTC TGB BTB TTGB CCT TCC BTG GCG GTC
CTG CTT GGB-3' (FRAG: 1696) (SEQ. ID NO: 1709)

5'-TCG TTC CTC TCG-3' (FRAG: 1697) (SEQ. ID NO: 3001)

5'-BGB BCG BGB C-3' (FRAG: 1698) (SEQ. ID NO: 1711)

5'-TGB BTB TTGB-3' (FRAG: 1699) (SEQ. ID NO: 1712)

5'-GCC TGT GTC TGT CCT CCT-3' (FRAG. NO: 1014) (SEQ. ID NO: 1024)

5'-GCT TCG TTC CTC TCG TTC-3' (FRAG. NO: 1015) (SEQ. ID NO: 1025)

5'-CTG CTT GGT GCC CTT GCC G-3' (FRAG. NO: 1016) (SEQ. ID NO: 1026)

5'-GTC CTG CTC CTC GGG GCT GTG G-3' (FRAG. NO: 1017) (SEQ. ID NO: 1027)

5'-GTC CTG GCC CTC GCT CCG GCT GGT GGG CTC CCC TGG-3' (FRAG. NO: 1018) (SEQ. ID NO: 1028)

5'-CCT TCG CTG GCT GGC GGC GTG C-3' (FRAG. NO: 1019) (SEQ. ID NO: 1029)

5'-CCC BGB BCG BGB CCC GGB CCG BCB-3' (FRAG. NO: 1020) (SEQ. ID NO: 1030)

5'-GGC CGT GGT TGG GGG TCT TC-3' (FRAG. NO: 1021) (SEQ. ID NO: 1031)

5'-GCT GCC TCC GTT TGG GTG GC-3' (FRAG. NO: 1022) (SEQ. ID NO: 1032)

5'-GBT CTC TGB BTB TTGB CCT TCC BTG GCG GTC CTG CTT GGB-3' (FRAG. NO: 1023) (SEQ. ID NO: 1033)

Human High Affinity IgE Receptor Oligonucleotide Fragments

5'-AACAAGAAAA GCGTTGGTAG CTCTGGTGAA TCCCAAAGA ATGTGGCAGT TGCTAGCCAT GCTCCTGAAT
ATGTATAAAC AGTACATCAT ATGACTAAGA GTTTGACTTA GGGGTAGAT TTTATGTGTT TGAACCCCAA
ATTAGTTATT TAATAGTTGG CACCCAAAA CAAGTTACTT AACCTCACTA AGGTTCACTT TTCCTGTTTA
TAAATGTAG ATACTGATAG TATGTACTTT ATAGGATTAT TGTGAAAAAT AAATGAAATA TCAGATTTAT
TTAGGATAAC ACCTGGCATA TGTTTGGTAT TCAGAATTAG TTGCTGCTGT TTTATTCTGC TCTCCCTTGC
ATCCCACTTT TCTAAGTTGT AAATAAATA GTTGATACACA GATTGACAGA TTAAGAAAGG CTTGTGATTG
TGCTAGACCT ATGCCTATGC CTCTGTCTCA CCAGATTCCA GGTGTATATG TGGAGGTGGG ATAGGGAGTG
GAGTAAGTGG GTAATATTA AATTGCCCAG TTGGGCACCA TCCTGAATAT TATCTCTAAA GAAAGAAGCA
AAACCAGGCA CAGCTGATGG GTTAACCAGA TATGATACAG AAAACATTTC CTTCTGCTTT TTGGTTTAA
GCCTATATTT GAAGCCTTAG ATCTCTCCAG CACAGTAAGC ACCAGGAGTC CATGAAGAAG ATG GATCTTCATG
TGGAATGACT GGTTCATTC AATAGACTTA ATTCAGCAGT CTGTGGGGAA GAGCAAGGTA TGATAGAATG
GTTCTCAAG TGCTTCAGAT GTGAAGTGGG TTAAATATA CTGTCCCTGT CTCTTCAGA GTTTTGGTAA

AGATAAAATA GGACACTCAT TTAAGGCAA TCTTTGCAAA TGACAAGCCA CTATAGACAT TAATAGAGTT
 TTCATTCCA GTATATCAT TAATATCAGA TCCTGGAAGA AGGTTGAGCC TTGACCTAGA GCAAAAAAAC
 AGAAGAATTA GTAAGGAAT CCTGGAGAAA GCCCCGCTG TGTATTTAAA GGAGAAAGGG AGATCATGTT
 GGGAAATTAT AATATTAAAA GTAAACAAAA GCTAGGAAGT AAAATAAAAT AAATTATATG GCCTAGATCC
 5 CCATAAGTAA TGGTTTAACT TCTGCCTTCC TGTGTTCTGA GCCAGATTAG GGCACAGTAG AGAAAGAGGA
 GTCTCTGAAA ATGTTTCCAA TTTCGCTGGT CAGACAGCGG ATCATCAGTG AATCAGATGA AAATTTGTGG
 ATTTATGCAC TAACATGATCA GCAGGAAATT AAACAAGAAA AGCGTTGGTA GCTCTGGTGA ATCCAAAAAG
 AATTTGGCAG TTGCTAGCCA TGCTCCTGAA TATGTATAAA CAGTACATCA TATGACTAAG AGTTTGACTT
 AGGGGTTAGA TTTTATGTGT TTGAACCCCA AATTAGTTAT TTAATAGTTG GCACCCCAAA ACAAGTTACT
 10 TAACCTCACT AAGATTCAGT TTCTCTGTTT ATAAAAATGTA GATAGTGATA GTATGTACTT TATAGGATTA
 TTGTGAAAAA TAAATGAAAT ATCAGATTTA TTTAGGATAA CACCTGGCAT ATGTTTGGTA TTCAGTAATT
 AGTTGCTGCT GTTTTATCT GCTCTCCCTT GCATGCCACT TTTCTAAGTT GTAAACTAAA TAGTTGTACA
 CAGATTGACA GATTAAGAAA GGCTTGTGAT TGTGCTAGAC CTATGCCTCT CTCTCACCAG ATTCCAGGTG
 TATATGTGGA GGTGGGATAG GGAGTGGAGT AAGTGGGTAA ATATTAAATT GCCCAGTTGG GCACCATCCT
 15 GAATATTATC TCTAAGAAAA GAAGCAAAAC CAGGCACAGC TGATGGGTTA ACCAGATATG ATACAGAAAA
 CATTTCTTTC TGCTTTTGGG TTTTAAGCCT ATATTTGAAG CCTTAGATCT CTCCAGCACA GTAAGCACA
 GGAGTCCATG AAGAGATGG CTCCTGCCAT GGAATCCCCT ACTCTACTGT GTGTAGCCTT ACTGTTCTTC
 GGTAAGTAGA GATTCATTA CCCCTCCCAG GGAGGCCCAA ATGAATTTGG GGAGCAGCTG GGGTAGGAAC
 CTTTACTGTG GGTGGTGACT TTTCTAGGA CATGTGCAAA CTATTGGGCA TTTCCAGGG ACTCTGTAGT
 20 GGAGCCAAGC TAGAAGCAG AGGCAAGTGG GCTGAGCAAC ACCTAAGGAG GAAGCCAGAC TGAAAGCTTG
 GTTCTTGA TTTGCTCTGG CATCTTCCAG AGTGCAAAAT TCCTACCAAG GTAATGAGGG TAGAGGAGAG
 AAAGAAGCTC TTCTTCCCC TGATTCTCAT TCCTGAAAAG ACGGTTGGTC CTTAAAATTC CATGGATGTA
 GATCTTATCC CCACACCCAG ATTCTAGTCC TCTGGAGATA AAGAAGACTG CTGGACACTA ATGTATCCTC
 TCTGGACTTT TGCAGCTCCA GATGGCGTGT TAGCAGGTGA GTCTCTGTT CTGTCTCCCT TGGTGTATCA
 25 ACATGTCTGG GCAATGCTTT CCTCTCACTA TTTTCTCTGT CCCATCACTT CTGCTTTCTA ATGAGCATGA
 ATCTGTTCTT TGGCAGACT ACTTCCCTC TCCACCTTGC CTGTCTTTC TTTTCTCCC TGATTCATTG
 CATCTCTCA AGTCATTCTC TCCTCTGTTT TAGTCAATAA CCATGTCTGT TGCACATATA CATGTCTCAT
 TCTCTCTCCT AGACACTTGG GCATGATCTC GCTCAATAAT TACATTATTA TTATTATTGC CATTTTATAA
 TTGAGGATGC TGAATCTCAG TGATTTTCTG GTGGTTACAT GGCTAAGGAA CTGGATTTC ACGTAAGTTC
 30 CTTGGATCTA AGTCAGTTC TCTCTGACT ATATCACCTT TTTGTTATCA CCATGTATCT ACTTCTTTGG
 TCTCTGTTCA AATTIGCACT ACATCCCCTT GTTCCAGGAA GCCATTCAAG ACTGACTTTC TTAGTGCTC
 TCACTACTTT CTGGAAGTGA CATATGTTTT TCACTCTGTA TATACTTACA ATTAAATAGT CATAAATATT
 CAGAGCTTGG AGAATACCTTA TATTTTCATCC AGTCCAGTAA ATTTATCCAT CCATAATTCA CTCATTCATT
 CACATAATAA ATATTTAATG TAACAATGGT TGAACATGGC AGACAGTGT TCTACCTCAA AAGAGATTGC
 35 AGCTTCATT TACAATATC GAATTGAAAT TAACAGAAGT AGAGTGAGTC AGCTCAATG ACATAGTGA
 TTGGTTTCTT TGTTTAAAA TCTCTGCAT ATGTGTCTGT TCTTCTCCC TGTGTTGGG GTTCCCTGGG
 GCACCAATAC TAATTTCTCC TTCCCCTAGA AATCAAAACA GGGTCTTATC ACCAACAGAA TAAGGACAGG
 TTGACCACTG ATCTCAGAA TATTGCTTCG TTTGTACTTT TAAGCCTAGA CAGTTTTCAA TGACTTTTTT
 40 TCTCTTACA TGCTTTTCA TATTTTATC TTCTTGAAGT CCCTCAGAAA CCTAAGGTCT CTTGAAACCC
 TCCATGGAAT AGAATATTTA AAGGAGAGAA TGTGACTCTT ACATGTAATG GGAACAATTT CTTTGAAGTC
 AGTTCCACCA AATGGTTCCA CAATGGCAGC CTTTCAGAAG AGACAAATTC AAGTTTGAAT ATTGTGAATG
 CCAAATTTGA AGACAGTGA GAATACAAAT GTCAGCACCA ACAAGTTAAT GAGAGTGAAC CTGTGTACCT
 GGAAGTCTTC AGTGTAAGT TCCAGGGATA TTGAAATACA GATCTCTCAT GTGAGGGATG GTCTCTGA
 45 AGATGGGAAA AAACAGGTTA TTCCAAGGGT TAGGACACCA GAGTGGGATT CAAGGCCTCT CATTTTAAAG
 ACCCTGTCAT TGGCTGGGCA CAGTGGCTCA CGCTGTAAAT CCCAGCACTT TGGGAGGCTG AGGCAGGTGG
 ATCACGAGGT CAGCAGATCG AGACCATCCG GCTAACATGG TGAAACCCCA TCTCTGCTAA AAAATATATA
 TATATAAAAT TAGCCGGGCG TAGTGGTGGG CACCTGTAGT CCCAGGTAAT CGGGAGGCTG AGGCAGGAGA
 ATGGTGTGAA CCCAGGAGGT GGAGGTTGCA GTGAGCTGAG ATCACGCCAC TGCCCTCCAG CCTGGGCTAC
 50 AGAGCAAGAC TCCCTCTCAA AAAATAAATA AATAAATAAA AAAGACCCCT GCATCTCTTT TCTTCTACCC
 CCTTCCCTTT TGATTAATG TATGCCTTCT TTCAATATTC TAGTCATCTC TCAATATTAT TCCTCCACCC
 TATTTCTCTC TATCTTTTCT GCCTAGATTC AGGTATATAT TATGTGGTCA AACAGCATGA CATATATGTG
 AACATTTCAA AGACTGTGT ATCTGGAATA GGATCAAAAG GTTGACTTA AAGTTTGTCT CTGCATAATC
 CATATGGCAG GACTTGAATA TTAGGTTGTA CTCTTCGTTA TGAAACATAT CTGGGTACAT TTCTTATGT
 55 CCTCTGTTGT TACTTAAGAA CACATATTTT ATGCTTGTTC CATTTTATC ACTCCTACTG CCAACAATA
 GCATAGCATG CTAGGCACA TGTGGCTTAA TTAGCAAATG TTGAATAAAC AAATTAATGA TTTTGAATAG
 TGACCAATAG GTCCTTTTA TACTCTATAT TTTTCTCTG AGTGAAAAAA AATGTTTCAA CCTCCATATG
 TAAATTTCAA ACACAACTA AAGCAATGTA GAATAGCTTC TTTATCCCTT GGAGTAGGTT CTAGAGAGT
 CTAAGGATG TGGTCTAAA TTAATTATG TATTATGCT AGCGATATTT CCTTCAAAA TTCTCTTTA
 60 ATGAATGCTT TTAATTTT ACAAAAGCAT TAACCATAGA ATGTGATTCT TGTCTTTCAC TGACTCATT
 GTGACAAATA TTCTTTAGT ACCTACCAAC TCCTAAGTAT TGCTACCAAC TCCTAAATAC TGTGTTGGG
 ATTCAGAATA GAATGTAGAA CTAGACAGG TCCCTGACTT CTTGGAGCAC AGAGCAGTAT GGAAGAGGA
 CATTAATAA AGAATTACAT AAGTAATTAA TTAAATTAT ACATGTTTTG AAGAAGTTT TTTTGACAA

00404 " 6294560

CTATAATTAA CACTAGAACT GGGAAAGTTTC TATAAGGTAA GAGAGGACAA AATAGACACT CTCCTAAGCT
 AAAATTCCCA AGAAGAGACTG TTTATTTTCC CCTAACTAAC TAGAACTAGC AACAGAAGAT CTGAAAGGAA
 TTCTGGCTTT CAACGTGTCC ATGTATGGAC TCATCAGGGA GGTCCGAGAG GCTTTGTGGC CCCAGACTGA
 CTTTTCAGGA GGGGAAAAGGA TTTATCAATA CACAAGACAG GCTCTAAGCA TTATTTTGTG CCTTTTAAAA
 5 ATCCACTTTA TGACCCAAAA AGTGAGTTAA TGATAATTCA TAGTTTCTGA CACATGCTCT ATGCGTGGCT
 CTCTTTTCTC TATTCATTCT CTCTCTCTTC ATTTATTGTT AAATAAATAA TGTAATGAAT GTTCTTCAGA
 CTGGCTGCTC CTTCAGGCCT CTGCTGAGGT GGTGATGGAG GGCCAGCCCC TCTTCCTCAG GTGCCATGGT
 TGGAGGAAC TGGATGTGTA CAAGGTGATC TATTATAAGG ATGGTGAAGC TCTCAAGTAC TGGTATGAGA
 ACCACAACAT CTCCATTACA AATGCCACAG TTGAAGACAG TGGAACTTAC TACTGTACGG GCAAAGTGTG
 10 GCAGCTGGAC TATCAGTCTG AGCCCTCAA CATTACTGTA ATAAAAGGTG AGTTGGTAAA GGAAAGGAAA
 AGCATCCATA GCACGGGAAG GAAGAGAGAA CTCTGAGCC TGAGCAGTTG CAGCTTGATG AAGGGGGGCA
 CCTGTGATAC ACTCGAAAGC CTACCAGACT TGCAATGAGG AGACCTGGGT GATAGTATAT ATCTCAATCT
 CTGTTTCAAA GCCCTGACTT GTTAAATGGT GATAGTAATA CCTGCTTGCA CTATGAAATT TTTATGAAGA
 TTAATGTGGT AATAATTGTG AAATGACTTT GTAACTGTT AAGCACTACC CAAGCATAAC AGATTGTGAT
 15 TACTATTTTG ATCTCAAAGT CATCTGTTGC TCCTGGGGGA ACACTTATAT TTATCAAATT GAAAAAAGT
 TTCAAAGTTG AATC AAGAAA GGATATAAAG AGCTTGAGGA GCCCATTCCA GCTTAGGAGG GCTGGGAAAG
 GAAACCAGCA AGTCAGTAAG CTGTGTGCCT GTGTATTGAG GGAGGAGGGA ATGGACTTGA TATGGAGAGG
 GTAGGGAGGT GGACTGCCTC TATGGCCTGT AAGAAAAACT GCTCTCTCCA AACTCTTTAT AAGAGAGGGA
 GCCTGTGAAG TATCACTTT TGAAGGAGAA AGTTAGACTT TTCCTTCACA CACTTTGTAT ATAATAATGT
 20 TTA AAAAAGC ATGAGGTCAA AATACATAAT TAAGTCTAG CAGTTCTCTG TTAACATAAT TGAGACTGAA
 GTGCTATGTA CTCTCTCTA GGCTTCCAGT ATCTTCATCT GTAAACAGA ATATTGGTC TAGATTCCAT
 TAGAATCATT TGA AACTTA AAAAATATAT TGATGCTCAT GTCTCATTTT TTGAGATTCT GATTTAATTG
 GTTTGGGGTG CAGCTGGGT ATACGTATTT TTCATAGGTC TTTCACATAA TGGTAATGGG TAGCCAATAT
 TGAGAATCAC TTGCTAGGT GATCTTTAAA TGATTCTGG ATGTAATATT CTGAGGCTCT ATAATTGAG
 25 ACTAATCACA AAAATCGGTA CAGTTTATAA ACAGACTAAC AGAACCACAA AATAATAGAA TTGGAAGGCA
 ATTTAACTAG TGCAATTTCT TCATTTTGCC TAACAGGCAT GTAAGAAATG ATGATTGATT GAGTAATAGG
 CATTGATGAC CCCGTCTCTC ACTTTGTCCC CTTTCCACCC CTTAATTATA TGTGAATTCT GGTCTTGTCA
 TTTCAATAA GGGGTTTATC TTTCTATTG TCTTCCCCTC TGGGCACGGC ACACCTGGCTA CTGGAGTTAA
 GAGGAAATGC TTAGGACTCC CTGTGGCTCC AGGGAGCACC AACAGAGCAA CTCAACCTAG TGTTAATCTG
 30 AGTGTTTTCT CTGTGCTTCT GGATGCCACA TCACGCTAAA AATGAAGGAC AAAGCTTGGT CTTTCTCTTA
 GGGAGGATGA AACCTGAAC CTCATTTTTC AGTCCCAAG ATGAATTATG TTTCTCATTG CATCTGTGTT
 CCACTACAGC TCCGCGTGAG AAGTACTGGC TACAATTTT TATCCCATTG TTGGTGGTGA TTCTGTTTGC
 TGTGGACACA GGA TATTTA TCTCAACTCA GCAGCAGGTC ACATTTCTCT TGAAGATTAA GAGAACCAGG
 35 AAAGGCTTCA GAC TCTGAA CCCACATCCT AAGCCAAACC CCAAAAACAA CTGATATAAT TACTCAAGAA
 ATATTGCAA CATAGTTTT TTTCCAGCAT CAGCAATTGC TACTCAATTG TCAAAACACAG CTGCAATAT
 ACATAGAAAC GTC GTGCTC AAGGATTAT AGAAATGCTT CATTAACTG AGTGAAACTG GTTAAGTGGC
 ATGTAATAGT AAG GCTCAA TTAACATTGG TTGAATAAAT GAGAGAATGA ATAGATTCTT TTATTAGCAT
 TTGTA AAAAGA GATGTTCAAT TTCAATAAAA TAAATATAAA ACCATGTAAC AGAATGCTTC TGAGTATTCA
 AGGCTTGCTA GTTGTGTTGT TTGTTTCTA CTAAGGCAA GGACCATGAA GTTCTAGATT GGAAATGTCC
 40 TCTCTTGACT ATTGCAAGTG CGATCTAGGA ATGAAAAGAC ATAGGAGGAT GCCAGTGAGG TGGATCATT
 TTATGCTTCT TCTT CAGCTT ACTAAATATG AACTTTCAGT TCTTGGCAGA ATCAGGGACA GTCTCAAGAC
 ATAGGACTCT CAGGATGAAG TAGAGTCCAG GATTCTCTG TGATTGTTTT GCCCCCTCCA AATTTATATC
 TTGAACCTAT GTCTGTATC TTATACAGC ACCTGACCA AGCATTTTTG AGAAATTCGA GCTTAATAA
 45 ATAACCAAAA CCTTCGGCTC TGA AACAGT CCAGGACTGA ATAAGATCTT GGGCAAAAAGA ACTAGACAGT
 TTTGGTTTAT TTTCCCTTTC ATTTTATGTC TTCATCATAG TCATTGGAGG CTCATTCTTC TTGTCATGGA
 GTAAATGGGA TTAAGTTT TACTAAGAGT CTCCAGCATC CTCCACCTGT CTACCACCGA GCATGGGCCT
 ATATTTGAAG CCTTAGATCT CTCCAGCACA GTAAGCACA GGAGTCCATG AAGAAGATGG CTCCTGCCAT
 GGAATCCCTT ACTTACTGT GTGTAGCCTT ACTGTTCTTC GCTCCAGATG GCGTGTTAGC AGTCCCTCAG
 50 AAACCTAAGG TCTCTTGAA CCCTCCATGG AATAGAATAT TTAAGGAGA GAATGTGACT CTTACATGTA
 ATGGGAACAA TTTCTTGAA GTCAGTTCCA CCAAATGGT CCACAATGGC AGCCTTTCAG AAGAGACAAA
 TTCAAGTTTG AATA TTGTGA ATGCCAAATT TGAAGACAGT GGAGAATACA AATGTACGA CCAACAAGTT
 AATGAGAGTG AACCTGTGTA CCTGGAAGTC TTCAGTGA CTGAGTGGT GAGGAACTGG GATGTGTACA AGGTGATCTA
 TGATGGAGGG CCAAGCCCTC TTCCTCAGGT GCCATGGTTG GAGGAACATCT CCAACATCT CCATTACAAA TGCCACAGTT
 55 TTATAAGGAT GGTGAAGCTC TCAAGTACTG GTATGAGAAC CACAACATCT AGCTGGACTA TGAGTCTGAG CCCCTCAACA
 GAAGACAGTG GAACTACTA CTGTACGGGC AAAGTGTGGC ACTGGCTACA ATTTTATC CCATTGTTGG TGGTGATTCT
 TTACTGTAAT AAAAGCTCCG CGTGAGAAGT TATTTATCTC AACTCAGCAG CAGGTCACAT TTCTCTGAA GATTAAGAGA
 GTTTGCTGTG GACA CAGGAT TACTGAACCA CATCCTAAGC CAAACCCCAA AAACAACCTGA TATAATTACT
 ACCGAAAG GCTCAGACT TCTGAACCTA CAGCATCAGC AATTGCTACT CAATTGTCAA ACACAGCTTG
 60 CAAGAAATAT TTGCAACATT AGTTTTTTTTC CAGCATCAGC ATTTATAGAA ATGCTTCATT AAACGTAGTG AAACGTGTTA
 CAATATACAT AGAACACGTCT GTGCTCAAGG ATTTATAGAA CATTGGTTGA ATAAATGAGA GAATGAATAG ATTCATTTAT
 AGTGGCATGT AATA GTAAGT GCTCAATTAA CATTGGTTGA ATAAATGAGA GAATGAATAG ATTCATTTAT
 TAGCATTTGT AAAAGAGATG TTCAATTCA ATAAATATA TATAAAACCA TGTAACAGAA TGCTTCTGAG

Dietary composition	
Grain	60.0
Oil	10.0
Protein	10.0
Minerals	10.0
Vitamins	10.0
Water	10.0
Total 100.0	
Energy (kcal/kg)	
Grain	1000
Oil	9000
Protein	1000
Minerals	1000
Vitamins	1000
Water	1000
Total 14000	
Energy (kJ/kg)	
Grain	4200
Oil	37800
Protein	4200
Minerals	4200
Vitamins	4200
Water	4200
Total 58800	
Energy (MJ/kg)	
Grain	1000
Oil	9000
Protein	1000
Minerals	1000
Vitamins	1000
Water	1000
Total 14000	
Energy (kJ/kg)	
Grain	4200
Oil	37800
Protein	4200
Minerals	4200
Vitamins	4200
Water	4200
Total 58800	
Energy (MJ/kg)	
Grain	1000
Oil	9000
Protein	1000
Minerals	1000
Vitamins	1000
Water	1000
Total 14000	
Energy (kJ/kg)	
Grain	4200
Oil	37800
Protein	4200
Minerals	4200
Vitamins	4200
Water	4200
Total 58800	
Energy (MJ/kg)	
Grain	1000
Oil	9000
Protein	1000
Minerals	1000
Vitamins	1000
Water	1000
Total 14000	
Energy (kJ/kg)	
Grain	4200
Oil	37800
Protein	4200
Minerals	4200
Vitamins	4200
Water	4200
Total 58800	
Energy (MJ/kg)	
Grain	1000
Oil	9000
Protein	1000
Minerals	1000
Vitamins	1000
Water	1000
Total 14000	
Energy (kJ/kg)	
Grain	4200
Oil	37800
Protein	4200
Minerals	4200
Vitamins	4200
Water	4200
Total 58800	
Energy (MJ/kg)	
Grain	1000
Oil	9000
Protein	1000
Minerals	1000
Vitamins	1000
Water	1000
Total 14000	
Energy (kJ/kg)	
Grain	4200
Oil	37800
Protein	4200
Minerals	4200
Vitamins	4200
Water	4200
Total 58800	
Energy (MJ/kg)	
Grain	1000
Oil	9000
Protein	1000
Minerals	1000
Vitamins	1000
Water	1000
Total 14000	
Energy (kJ/kg)	
Grain	4200
Oil	37800
Protein	4200
Minerals	4200
Vitamins	4200
Water	4200
Total 58800	
Energy (MJ/kg)	
Grain	1000
Oil	9000
Protein	1000
Minerals	1000
Vitamins	1000
Water	1000
Total 14000	
Energy (kJ/kg)	
Grain	4200
Oil	37800
Protein	4200
Minerals	4200
Vitamins	4200
Water	4200
Total 58800	
Energy (MJ/kg)	
Grain	1000
Oil	9000
Protein	1000
Minerals	1000
Vitamins	1000
Water	1000
Total 14000	
Energy (kJ/kg)	
Grain	4200
Oil	37800
Protein	4200
Minerals	4200
Vitamins	4200
Water	4200
Total 58800	
Energy (MJ/kg)	
Grain	1000
Oil	9000
Protein	1000
Minerals	1000
Vitamins	1000
Water	1000
Total 14000	
Energy (kJ/kg)	
Grain	4200
Oil	37800
Protein	4200
Minerals	4200
Vitamins	4200
Water	4200
Total 58800	
Energy (MJ/kg)	
Grain	1000
Oil	9

ATTGACTTTG TCGTCTGCTA AATCCTTAGT GCTCAGATGA CTTGTTTCAGG ACTCTCCTTG AACCTGTACC
 TCTGTTANAT TGAAACTTGT CTCTACTGTC TTTTATTTC AAACACAGCT TATTAGGTGT CTCTCAACCC
 ATCAAACNCA CAACTCTGAGT CTTTAGGAGA TTGCTTTGAA TTGTGCTAT TGACTTATAT NTATATNAAA
 5 TNTGTAATG TTTGGTAAAA ATATCATCAT GTACNTTTTC ATAATTACGC TATNTNCACA TGATATATGT
 CAGACTCTGG AAAATATGCAT GCCACAGACA CGTGTTCCTT GCCTAAAAGGG GCTGATGGAA GACNCACATA
 CNAATAGACG ATTC CAGTAG AATGAGAGTG GTGGTCTAAN CAGTACATGT CCTGATGTTG CTCGGACAGT
 TACTACNCCA AGACTACCCC CTGCATTGTC AGGGTTAGCA TCTCCTGGAA GCCTCATGTA AATGAAGAAT
 TTCATGCTCC ATCCAGGACC TAATGAATAA GAATCTGCAT TTTAGCAAGA CCCTCATATG ATTCATATAC
 10 ACTTTTTTTT TTTTITTTTA GATGGAGTCT CACTCTTGTC GCCCAGGCTG GAGTGCAATG GCATGATCTT
 GGCTCACTGC AACCTCTGCC TCCCGGGTTC AAGTGATTCT CCTGTCTCAG CCTCCCTAGT AGCTGGGACT
 ACAGGTGCAT GCCACAGTGG CTGGCTAATT TTGTATTITT TAGTAGAGAC AGGGTTTCAC CATTTTGGTC
 AGGCTGGTCT TGAACTCATG ACCTCCGGTG ATTCCCGCGC CTCGGCTTCC CAAAGTCTG GGAATTACAGA
 CATGAGCCAC CACA CCCGCC TTATTCGTAT ACNCATTTAA TTCTGAGAAG CACTCTATAG AAAATAAGAA
 TAAGAAAATA TTGCGCTCAC AGGTGACATT AATAAGTAAC TTTATCGAGT ACCCCAAATT TTACCTATGT
 15 TTGGAAGATG GGGTAAAAAG GACACATTGA AAACAAGAAG TCATTGTGGC TTTTTTTTCC TCCTTTTGA
 ACAGTTTCTT ATTTCTGGAA TGTTGTCAAT TATATCTGAA AGGAGAAATG CAACATATCT GGTGAGTTGC
 CCGTTTCTGT CTTTGTCCAT CTTGAAAAG ATAAGAAGAA CAGAGTTTAA AGAGTCTTAA GGGAAACACA
 TCTTTGTCTC CTATATTACT TGTGAATGTG GATATATGAT TTTGTTTCAA TCTATTTTGT GTCTAAGGC
 TTTTGTCAAC AGAAGTTGGA TATATCATTAA GAAACATAAA TTGTACCATT TAACATACAT GAAGTTTATG
 20 TTTACCTTGA CGTTCTTCTA AAAAGTGTCC TACACCGGCA TTGTCCCTGT AGGCATATTC ACATGATCAA
 ATAAAAATAAT TAGTTTTCAA TTAAGGAGAA TATTTGAGGA AAGACCGTAC GTGTTCATGT GGTTCCTGAA
 GGCAGTCCAG TGAGAAAAGTA ATATATGCTT CATTAAACAA TCGGACATT TTCAGGGTTT CCCTTTTAA
 CCAAAATTTG GAACCAATGT GGAATTTACT GGATGCATCC AGCCCTGAAA TGAAGATAGG TTTATTGAAT
 GTGCCAGCAA GTGCAGGCC AGGTCTGAGT GTTCTTCATT ATTATCAGGT GAGAGGAAGC CTGGGAGCAA
 25 ACATGCCAG CAGCATAGCT GGGGGAACGG GAATTACCAT CCTGATCATC AACCTGAAGA AGAGCTTGGC
 CTATATCCAC ATCCACAGTT GCCAGAAATT TTTTGAGACC AAGTGCTTTA TGGCTTCCTT TTCCACTGTA
 TGTATTTTTT TTTGTGTGGG AAGACTAAGA TTCTGGGTCC TAATGTAAAGT AAGAAGCCCT CTCTCCTGT
 TCCATGAACA CCACTCTTTT CTGTAACCTC TATTACACAG TATAGTGGT CTGTAAGTTC ACACAGCCCA
 GGGAGATGCT GGCCTCCAC TCCCCTCAAC CCAGGCAAAT TCCTCGGGGT TAAAGTTATC TACTGCAAGT
 30 GACGATCTCT GGGTTTTCT GTGCCTGTGT TTGTGTGTGT GTGTGTGTGT GTGTGTGTGT GTATGTGTCA
 CTTTAAAAGG ACTGCTCAGA TGGTAGGGAG ATGAAAACAG GAGATGCTAT AAGAAAATAA ACTTTTGGGG
 CGAATACCAA TGTGACTCTT TTTGTTGTGCT ATTTGTGTGCT GTTCAATAGG AAATTGTAGT GATGATGCTG
 TTTCTACCA TTCTGGGACT TGGTAGTGCT GTGTCACTCA CAATCTGTGG AGCTGGGGAA GAACTCAAAG
 GAAACAAGGT AGATAGAAGC CCGATATAAA ATCTTGAATG ACAGGTTAAC GAATTGGAGC TTTATTCCTT
 35 AAAATATGGC CTGGGTTTTC TGAAACATTT CTTCAGAAA ATAGTTTCTC CAAGTTTAT TATTCTGGT
 TACAAATCTC ACACTTAAAT CACATTTTAT ACCATAAGTA GCACACATTT CATAATATTC CTCTGAATGA
 GGGTTGGGAT AATAGGACTG ATATGTTAGA AATGCCTTAA AGTGTGTGGA GCATGAGAGA TGGATGTACA
 GAAGGCTTGT GAGGAAACCA CCCAGGTATC TGGCCTTGT TTCTGCCCCA GAACTAGCCG CCTATTCCTG
 TTTCTGTTT ATTCCTTTGT TTCTGACTT TTCTTTCCA ACTTGCTCTA AAACCTCAGT TTTCTTTCCT
 40 TTCTGATTCA TGACTACCAA ATGTTTTTAC TTGCCTCACC CGTCCATTAC ACCTTTGATA AGAACCACCA
 GACCTGTGTC TCACTGACTT GCCCATGTCT GATGGAAGAA ACATACTCTC TCCATCTGTC CACTTTCCTG
 AGGCATTCAA GTCAGCCAC CTTTTAAAAT CACTCTCCTC CAGGCTGGGC ACGGTGTCAC GCCTGTAATC
 TCAGCACTTT GTGAGGCTGA GGAGGGCGGA TCAGGTGAAG TCAGGAGTTC AAAACCCAGC TGGCCAAATG
 GCAAAACCAA ATCTCTTCA ATTATAACCA AATCTTAAAC CAAATCTCTA CTAATAAATA CAACAAAACA
 45 AAACAACAAC AACAAAAACA GAAAAGGAAA CATTAGCCCA GCGTGGTGGC AGGTACCTGA GGTTCAGAT
 ACTTGGGAGG CTGAAGCAGG AGAATCGCTT GAGCCCAAGA GATGGAGGTT GCAGTGAGCC GAGATCATGC
 CACTGCACCA CAGCCAGGGT GACAGAGCCA TACTTCCAG CACATTGGGA GGCCAAAGCT GAAGAATAAT
 TTGAGGTGAG GATTTGGAGA CCAGCCTGGC CAACATGGTG AAACCTCCGTC TGTACTAAAA ATATAAAACT
 TACTGGGGCA TGGGGGCACA CACCTGTAAT TTCAGTACT TAGGAGGCTG AGGCAGGAGA ATTGCTTGAA
 50 CCCGGGAGGC GGAAGTTGCA GTGAGCCAAG ATCGTGGCCA CTGCACTCCA GCCTGGGTGA CATAGTGAGA
 TTCTGTCTCA AAAAATAATA AAGAAATTTA AAAAATCACT CTCTTCCAAA GATAGATAAA TAAGACAGCA
 GATATACTAA GGAATAACCT CACCAACTTG TCATTGACTG ACATGATTTT TTTTGGCCCA CTTGGCCAGC
 TAGTCTGGTT TGGTTTTCTG GAAATGAAAG AAATAATCAG AGTTTAATGA CAGAGAGCGT GAGACCCAGA
 AAGACAAAAG TAGATGAGGT AAGTCTCTTG AGCGAGACTT CTAGGGATGG GAAATTTGTG GTGATTGATA
 55 TGAAATGATT TTTCTCTTAT CAGGTTCCAG AGGATCGTGT TTATGAAGAA TTAAACATAT ATTCAGCTAC
 TTACAGTGAG TTGGAAGACC CAGGGGAAAT GTCTCCTCCC ATTGATTTAT AAGAATCACG TGTCCAGAAC
 ACTCTGATTC ACACCCAAGG ATCCAGAAGG CCAAGGTTTT GTTAAGGGGC TACTGGAAAA ATTTCTATTC
 TCTCCACAGC CTGCTGGTTT TACATTAGAT TTATTCGCTT GATAAGAATA TTTTGTCTCT GCTGCTTCTG
 TCCACCTTAA TATGCTCCTT CTATTTGTAG ATATGATAGA CTCCTATTTT TCTTGTTTTA TATTATGACC
 60 ACACACATCT CTGCTGGAAA GTCAACATGT AGTAAGCAAG ATTTAACTGT TTGATTATAA CTGTGCAAAAT
 ACAGAAAAAA AGAAGGCTGG CTGAAAAGTT AGTTAACTT TGACAGTTTG ATAATATTTG GTTCTTAGGG
 TTTTTTTTTT TTTTAGCATT CTTAATAGTT ACAGTTGGGC ATGATTTGTA CCATCCACCC ATACCCACAC

AGTCACAGTC ACACACACAT ATGTATTACT TACACTATAT ATAACTTCCT ATGCAAAATAT TTTACCACCA
 GTCAATAATA CATTTTTGCC AAGACATGAA GTTTTATAAA GATCTGTATA ATTGCCTGAA TCACCAGCAC
 ATTCAGTCAG ATGATATTAT TTGCAGATTG ACAAGTAGGA AGTGGGGAAC TTTTATTAAG TTAICTCGTTG
 TCTGGGGAGG TAAATAGGTT AAAAAACAGGG AAATTATAAG TGCAGAGATT AACATTTTAC AAATGTTTAG
 5 TGAAACATTT GTGAAAAAAG AAGACTAAAT TAAGACCTGA GCTGAAATAA AGTGACGTGG AAATGGAAAT
 AATGGTTATA TCTAAAACAT GTAGAAAAAG AGTAACTGGT AGATTTTGT TACAAATTA AGAATAAAGT
 TAGACAAGCA ACTGTTGAC TAATACATTA AGCGTTTGAG TCTAAGATGA AAGGAGAACA CTGGTTATGT
 TGATAGAAATG ATAAAAAGGG TCGGGCGCGG AGGCTCACGC CTGTAATCCC AGCCCTTTGG GAGGCCGAGG
 TGGGCAGATC ACGAGTCAG TAGTTTGAGA CCAGCCTGGC CAACATAGTG AAACCCCGTC TCTACTAAAA
 10 ATACAAAAAA AAAATTAGCT GGGTGTGGTG GCAGTCACCT GTAGTCCCAG CTACTTGGGA GGATGAGGCA
 GGAGAATCGC TTGAACCTGG GAGGCGGAGG TTGCAGTGAG CCGAGATCGC ACCAGTGCAC TCCAGCCTTG
 GTGACAAATGG GAGACTCCAT CTCAAAAAAA AAAAAAGATA AAAAGTCAGA AATCTGAAAA
 GTGGAGGAAG AGTACAAATA GACCTAAATT AAGTCTCATT TTTTGGCTTT GATTTTGGGG AGACAAAGGG
 AAATGCAGCC ATACAGGGCC TGATGACATC CAATACATGA GTTCTGGTAA AGATAAAATT TGATACACGG
 15 TTTGGTGTCA TTATAGAGA AATCATTATT AAATGAAGCA AGTTAACACT CTAAGAGAAT TATTTTGAGA
 TAGAAGTGAA GCTAGCTAA ACTTCACATG CCTATAATTG GAGGGAAAAA CTAAGGATAA AATCTAGCCT
 AGAAGATACA ATAATTAGTC ATAAACATGC ATTGTGAAAC TGTAGAGAGC AGGTAGCCCA AAATAGAGAA
 AGATTAGATA AAGAGAAAT AAGTATCCAT CAGAGACAGT ATCTCTAGGC TTGGGCAAGA GAAAAGTCCA
 CAGTGATAAG CAATCCACC TAAGGCATGA ATATGCGGCA GAGAAAACAG CAATAGTGAA TGAATGCAAA
 20 AGGTGCTGAG CAAATTCCAC ACATGAGTAT TGTCATGAG TAAATGAATA AAACATTTGC AAAGACCTTT
 AGAGAAAGAG AATGGGAGCA TATGTGCGAA ATAAGATAGT TGATTATGAA TAGAAGGTAG TGAAGAAAAAG
 CAAGCTAAGA AAAATTCTG TTTATAAAAG AAGGAAAAGA TAGTTTATGT TTTAGCCTA AGTATAAGAG
 TCCTACAGAT GGACTGAAAA AAATCAGTCT GAGAGTATTA GTCACAATTA ATGAAATAAT TACATTTTAT
 GTATTGAGGA TGCCAAGATT AAAAGGTGAC AGGTAGATGT TAATTTCCCT AGATTGTGAA AGTGATCACG
 25 ACAATCACAC AACAAATAAT TAAGTGACTT GGTATGCTTT ATTTAATTGT AGGGCCTGAG GTTTTCCATT
 CTCATTTTTC TAAAATACAA TTTTGTCTT CCAAATTTGA CAGCAGAATA AAAACCCTAC CCTTTCCTG
 TGTATCATGC TAACCTGCAT CTCTACTCTT GATCATCTGT AGGTATTAAT CACATCACTT CCATGGCATG
 GATGTTTACA TACA GACTCT TAACCCTGGT TTACCAGGAC CTCTAGGAGT GGATCCAATC TATATCTTTA
 CAGTTGTATA GTATATGATA TCTCTTTTAT TTCACTCAAT TTATATTTTC ATCATTGACT ACATATTTCT
 30 TATACACAAC ACACAATTTA TGAATTTTTT CTCAAGATCA TTCTGAGAGT TGCCCCACCC TACCTGCCTT
 TTATAGTACG CCCACCTCAG GCAGACACAG AGCACAATGC TGGGGTTCTC TTCACACTAT CACTGCCCCA
 AATTGCTTT CTAAATTTCA ACTTCAATGT CATCTTCTCC ATGAAGACCA CTGAATGAAC ACCTTTTCAT
 CCAGCCTTAA TTCTTGCTC CATAACTACT CTATCCCACG ATGCAGTATT GTATCATTAA TTATTAGTGT
 GCTTGTGACC TCCTTATGTA TTCTCAATTA CCTGTATTTG TGCAATAAAT TGGAATAATG TAACTTGATT
 35 CTTTATCTGT GTTTGTGTTG GCATGCAAGA TTTAGGTACT TATCAAGATA ATGGGGAATG AAGGCATCAA
 TAAATGATG CCAAGAGCCA AGAGCAGTTT CTGAAGTCCT CCTTTTCATC AGCTCTTTAT CAAACAGAAC
 ACTCTATAAA CAACCCATAG CCAGAAAACA GGATGTAGGA ACAATCACCA GCACACTCTA TAAACAACCC
 ATAGCCAGAA AACAGAATGT AAGGACAATC ACCAGCCATC TTTTGTCAAT AATTGATGGA ATAGAGTTGA
 AAGGAACCTG AGCATGAGTC ATATTTGACC AGTCAGTCCT CACTCTTATT TACTTGCTAT GTAAACTTGA
 40 GAAAGCTTT TTCTTTTGT GAACCTCAGG TTTTACATCT GAAAAAGAGA AATTTGGAAC AAAAGATTCC
 TAACTGGTCT TTCTGTTCCC ATATTCTGTG ATTTTTCAT ATTTAGGATT TTTGGTAATC ACAATTACTT
 AGTTTGTGGT TGAGATAGCA ACACGAATCA GAACATTTTG GTGGACATAT TTTCAAAGGA GTAGCTCTCC
 ACTTTGGGTA AAGAAGTGAT GCNNGTCGTG TTGGCTCACG CCTGTAATCC CAGCACTTTA GGGAGGCCAA
 GCGGGGTGGA TCACGAGGTC AGGAGATCGA GACCATCTG GCTAACACGG TGAACCCCG TCTCTACTAA
 45 AAAATACAAA AAATAGCCA GGCCTGGTGG CGGGCGCCTG TAGTCCACG TACTCGGGAG GCTGAGGCAG
 GAGAATGGCA TGAACAGGG AGGCGGAGCT TGCCGTGAGC CGAGATAGCG CCACTGCAGT CCCTCTGGG
 CAAAAGAGCA AGACTGCGTC TCAAAAAAAA AAAAAAGAA AAAAAAGAA GTGTGTGGAG TAGCAGGACA
 CCTGCAACAA TAATATTTT CTAAATCCCT CTGAAAAATG CTAATCAAAG GGTTTTTTTC CTAAAAATTG
 TCTTAGAAAT AAAATTTCCC CTTTGGGAGA CCGAGGCTGG CAGATCACGA GGTGAGGAGA TAGAGACCAC
 50 GGTGAAACCC CGTCTCTACT AAAAATACTA AAAATTAGCC GGGNGTGGT GGTGGGTACA CCTGTAGTCC
 CAGCTACTTG GAGGCTGAGG CTGGAGAATC ACGTGAAC-3' (FRAG. NO:)(SEQ. ID NO:2505)
 5'-AACAAAGAAA GCCTTGGTAG CTCTGGTGAA TCCCAAAAGA ATGTGGCAGT TGCTAGCCAT GCTCCTGAAT
 ATGTATAAAC AGTATCATCAT ATGACTAAGA GTTTGACTTA GGGGTTAGAT TTTATGTGTT TGAACCCCAA
 ATTAGTTATT TAATAGTTGG CACCCCAAAA CAAGTTACTT AACCTCACTA AGGTTCAGTT TTCCTGTTTA
 55 TAAATGTAG ATACTGATAG TATGTACTTT ATAGGATTAT TGTGAAAAAT AAATGAAATA TCAGATTAT
 TTAGGATAAC ACCTGGCATA TGTTTGGTAT TCAGAATTAG TTGCTGCTGT TTTATCTGCT TCTCCCTTGC
 ATCCCACTTT TCTAAGTTGT AAATAAATA GTTGTACACA GATTGACAGA TTAAGAAAGG CTTGTGATTG
 TGCTAGACCT ATGCTATGCT CTCTGTCTCA CCAGATTCCA GGTGTATATG TGGAGGTGGG ATAGGGAGTG
 GAGTAAGTGG GTAAATATTA AATTGCCCCAG TTGGGACACA TCCTGAATAT TATCTCTAAA GAAAGAAGCA
 60 AAACCAGGCA CAGCTGATGG GTTAACCAGA TATGATACAG AAAACATTTC CTTCTGCTTT TTGGTTTAA

[illegible]

	5'-GATCTTCATG	TGGAATGACT	GGTTTCATTC	AATAGACTTA	ATTACAGCAGT	CTGTGGGGAA	GAGCAAGGTA
5	TGATAGAATG	GTTCTCAAG	TGCTTCAGAT	GTGAAGTGGG	TTTAAATATA	CTGTCCCTGT	CTTCTTCAGA
	GTTTTGGTAA	AGAT'AAAATA	GGACACTCAT	TAAAAAGCAA	TCTTTGCAAA	TGACAAGCCA	CTATAGACAT
	TAATAGAGTT	TTCA'TTTCCA	GTATTATCAT	TAATATCAGA	TCCTGGAAGA	AGGTTGAGCC	TTGACCTAGA
	GCAAAAAAAC	AGAAGAATTA	GTAAGGAAT	CCTGGAGAAA	GCCCCTGCTG	TGTATTTAAA	GGAGAAAGGG
10	AGATCATGTT	GGG'AAATTAT	AATATTAATA	GTAACAAAA	GCTAGGAAGT	AAAAATAAAT	AAATTATATG
	GCCTAGATCC	CCA'AAAGTAA	TGGTTAACT	TCTGCCTTCC	TGTGTTCTGA	GCCAGATTAG	GGCACAGTAG
	AGAAAGAGTA	GTC'CTGTAAA	ATGTTTCCAA	TTTCGCTGGT	CAGACAGCGG	ATCATCAGTG	AATCAGATGA
	AAATTTGTGG	ATTAT'GTCAC	TAACATGATCA	GCAGGAAATT	AAACAAGAAA	AGCGTTGGTA	GCTCTGGTGA
15	ATCCCAAAAG	AAT' TGGCAG	TTGCTAGCCA	TGCTCTGAA	TATGATATAA	CAGTACATCA	TATGACTAAG
	AGTTTGACTT	AGGGGTTAGA	TTTTATGTGT	TTGAACCCCA	AATTAGTTAT	TTAATAGTTG	GCACCCCAAA
	ACAAAGTTACT	TAACTCACT	AAGATTCACT	TTTCTGTTT	ATAAAAATGTA	GATAGTGATA	GTATGTACTT
	TATAGGATTA	TTGIGAAAA	TAAATGAAAT	ATCAGATTTA	TTTAGGATAA	CACCTGGCAT	ATGTTTGGTA
20	TTCAGTAATT	AGT'GCTGCT	GTTTTATTCT	GCTCTCCCT	GCATCCCACT	TTTCTAAGTT	GTAAACTAAA
	TAGTTGTACA	CAGAT'TGACA	GATTAAGAAA	GGCTGTGTAT	TGTGCTAGAC	CTATGCCTCT	CTCTCACCAG
	ATTCCAGGTG	TAT'ATGTGGA	GGTGGGATAG	GGAGTGGAGT	AAGTGGGTAA	ATATTAAATT	GCCCAGTTGG
	GCACCATCTC	GAAT'ATTATC	TCTAAAAGAA	GAAGCAAAAC	CAGGCACAGC	TGATGGGTTA	ACCAGATATG
25	ATACAGAAA	CAT'ITCCTTC	TGCTTTTTTG	TTTTAAGCTC	ATATTTGAAG	CCTTAGACTG	CTCCAGCACA
	GTAAGCACCA	GGAT'CTCATG	AAGAAGATGG	CTCTGCCAT	GGAACTCCCT	ACTCTACTGT	GTGTAGCCTT
	ACTGTTCTTC	GGTAAGTAGA	GATTCAATTA	CCCCTCCCAG	GGAGGCCCAA	ATGAATTTGG	GGAGCAGCTG
	GGGTAGGAAC	CTT'ACTGTG	GGTGGTGACT	TTTTCTAGGA	CATGTGCAAA	CTATTGGGCA	TTTCCCAGGG
30	ACTCTGTAGT	GGAC'CCAAGC	TAGAAAGCAG	AGGCAAGTGG	GCTGAGCAAC	ACCTAAGGAG	GAAGCCAGAC
	TGAAAGCTTG	GTTCT'CTGCA	TTTGCTCTGG	CATCTTCCAG	AGTGCAAATT	TCCTACCAAG	GTAATGAGGG
	TAGAGGAGAG	AAA'GAAGCTC	TTTCTTCCCC	TGATTCTCAT	TCCTGAAAAG	ACGGTTGGTC	CTTAAAAATC
	CATGGATGTA	GATCT'TATCC	CCACACCCAG	ATTCTAGTCC	TCTGGAGATA	AAGAAGACTG	CTGGACACTA
35	ATGTATCCTC	TCTC'GACTTT	TGCAGCTCCA	GATGGCGTGT	TAGCAGGTGA	GTCCTCTGTT	CTTGTTCCTT
	TGGTGTATCA	ACA'GTCTGG	GCATTGCTTT	CCTCTCACTA	TTTTCTTCGT	CCCATCACTT	CTGCTTTCTA
	ATGAGCATGA	ATCT'GTTCCT	TGGCCAGACT	ACTTTCCCTC	TCCACCTTGC	CTTGTCTTTC	TTTTTTTCCC
	TGATTCATTG	CATCT'CTCA	AGTCATTCTC	TCTCTGTTT	TAGTCAATAA	CCATGTCTGT	TGCACATATA
40	CATGTCTCAT	TCTC'TCTCCT	AGACACTTIG	GCATGATCTC	GCTCAATAAT	TACATTATTA	TTAATTATTG
	CATTTTATAA	TTGAGGATGC	TGAAACTCAG	TGATTTTCTG	GTGGTTACAT	GGCTAAGGAA	CTGGATTTCA
	ACGTAAGTTC	CTTGATCTA	AGTCCAGTTC	TCTTCTGACT	ATATCACCTT	TTTGTTATCA	CCATGTATCT
	ACTTCTTTGG	TCTCTGTTCA	AATTTGCACT	ACATCCCCTT	GTTCCAGGAA	GCCATTCAAG	ACTGACTTTC
45	TTAGTGCCCTC	TCAT'TACTTT	CTGGAAGTGA	CATATGTTTT	TCACTCTGTA	TATACCTTACA	ATTAATAGT
	CATAAATATT	CAGAGCTTGG	AGAAACCTTA	TATTTTCATCC	AGTCCAGTAA	ATTTATCCAT	CCATAATTCA
	CTCATTCAAT	CACATAATAA	ATATTTAATG	TAACAATGGT	TGAACATGGC	AGACAGTGTT	TCTACCTCAA
	AAGAGATTGC	AGTCTCAAT	TACAGATACT	GAATTGAAAT	TAACAGAAAT	AGAGTGAGTC	AGCTCAAAAT
50	ACATAGTGAA	TTG'GTTTCTT	TGTTTTTAAA	TCTCTGCAT	ATGTGTCCTG	TCTTTCTCCC	TGTTTGTGGC
	GTTCCTGGG	GCAC'CAATAC	TAATTTCTCC	TTCCCCTAGA	AATCAAAAACA	GGGTCTTATC	ACCAACAGAA
	TAAGGACAGG	TTG'ACCACTG	ATTGTCAGAA	TATTGCTTCG	TTTGTAATTT	TAAGCCTAGA	CAGTTTTCAA
	TGACTTTTTTT	TCTCTCTACA	TGTCTTTTCA	TATTTTTATC	TTCTTGAAGT	CCCTCAGAAA	CCTAAGGTCT
55	CCTTGAACCC	TCCA'TGGAAT	AGAATATTTA	AAGGAGAGAA	TGTGACTCTT	ACATGTAATG	GGAACAATTT
	CTTTGAAGTC	AGTTCACCA	AATGGTTCCA	CAATGGCAGC	CTTTCAGAAG	AGACAAATTC	AAGTTTGAAT
	ATTGTGAATG	CCA'ATTTGA	AGACAGTGGA	GAATACAAAT	GTCAGCACCA	ACAAGTTAAT	GAGAGTGAAC
	CTGTGTACTGA	GGA'GTCTTC	AGTGGTAAAT	TCCAGGGATA	TGGAAATACA	GATCTCTCAT	GTGAGGGATG
60	GCTCATCTGA	AGA'IGGAAA	AAACAGGTTA	TTCCAAGGTT	TAGGACACCA	GAGTGGGATT	CAAGGCCCTC
	CATTTTTAAG	ACCC'TGCAT	TGGCTGGGCA	CAGTGGCTGA	CGCCTGTAAT	CGCAGCACTT	TGGGAGGCTG
	AGGCAGGTGG	ATCA'CGAGGT	CAGGAGATCG	AGACCATCCG	GCTAACATGG	TGAAACCCCA	TCTCTGCTAA
	AAAAATATATA	TAT'ATAAAAT	TAGCCGGGCG	TAGTGGTGGG	CACCTGTAGT	CCCAGGTACT	CGGGAGGCTG
65	AGGCAGGAGA	ATG'GTGTGAA	CCCAGGAGGT	GGAGGTTGCA	GTGAGCTGAG	ATCACGCCAC	TGCCCTCCAG
	CCTGGGCTAC	AGAG'CAAGAC	TCCGTCTCAA	AAAATAAATA	AATAAATAAA	AAAGACCCCT	GCATCTCTTT
	TCTTCTACCC	CCT'CCCTTT	TGATTACTTG	TATGCCTTCT	TTCAATATTC	TAGTCATCTC	TCAATATTAT
	TCCTCCACCC	TAT'ITTCCTC	TAT				

	CCTCCATATG	TAAATTCCAA	ACACAAACTA	AAGCAATGTA	GAATAGCTTC	TTTATTCCT	GGAGTAGGTT
	CTAGAGAAGT	CCTAAAGGAT	TGGTCCTAAA	TTAATTATGC	TTATTATGCT	AGCGATATTT	CCTTTCAAAA
	TTCTCCTTTA	ATGAAATGCTT	TTTAATTTTT	ACAAAAGCAT	TAACCATAGA	ATGTGATTCT	TGTCTTTCAC
	TGACTCATT	GTGACAAATA	TTGTGTGAGT	ACCTACCAAC	TCCTAAGTAT	TGCTACCAAC	TCCTAAATAC
5	TGTGTTGGGC	ATTCAAGAATA	GAATGTAGAA	CTAGACAGGG	TCCCTGACTT	CTTGGAGCAC	AGAGCAGTAT
	GGGAAGAGGA	CATTAAATAA	AGAATTACAT	AAGTAATTAA	TTTAAATTAT	ACATGTTTTG	AAGAAGTTTT
	TTTTTGACAA	CTATAATTTA	CACTAGAACT	GGGAAGTTTC	TATAAGGTAA	GAGAGGACAA	AATAGACACT
	CTCCTAAGCT	AAAATTCCCA	AGAAAGACTG	TTTATTTTCC	CCTAACTAAC	TAGAACTAGC	AACAGAAAGT
	CTGAAAGGAA	TTCTGGCTTT	CAAGTGTTC	ATGTATGGAC	TCATCAGGGA	GGTCCGAGAG	GCTTTGTGGC
10	CCCAGACTGA	CTTTCAGGA	GGGGAAAGGA	TTTATCAATA	CACAAGACAG	GCTCTAAGCA	TTATTTGTGT
	CCCTTTAAAA	ATCCACTTTA	TGAGCCAAAA	AGTGAGTTAA	TGATAATTCA	TAGTTTCTGA	CACATGCTCT
	ATGCGTGGCT	CTCTTTTCTC	TATTCATTCT	CTCTCTCTTC	ATTTATTGTT	AAATAAATAA	TGTAATGAAT
	GTTCTTCAGA	CTGGCTGCTC	CTTCAGGCCT	CTGCTGAGGT	GGTGATGGAG	GGCCAGCCCC	TCTTCCTCAG
	GTGCCATGGT	TGGAGGAACT	GGGATGTGTA	CAAGGTGATC	TATTATAAGG	ATGGTGAAGC	TCTCAAGTAC
15	TGGTATGAGA	ACCACAACAT	CTCCATTACA	AATGCCACAG	TTGAAGACAG	TGGAACCTAC	TACTGTACGG
	GCAAAGTGTG	GCAJCTGGAC	TATGAGTCTG	AGCCCCCTCA	CATTACTGTA	ATAAAAGGTG	AGTTGGTAAA
	GGAAAGGAAA	AGCATCCATA	CGAGGGAAG	GAAGAGAGAA	CTTCTGAGCC	TGAGCAGTTG	CAGCTTGTAG
	AAGGGGGGCA	CCTJTGATAC	ACTGGAAAGC	TACCAGAGCT	TGCAATGAGG	AGACCTGGGT	GATAGTATAT
	ATCTCAATCT	CTGTTCAAA	GCCTTGACTT	GTTAAATGGT	GATAGTAATA	CCTGCTTGCA	CTATGAAATT
20	TTTATGAAGA	TTAATGTGGT	AATATTTGTG	AAATGACTTT	GTAAACTGTT	AAGCACTACC	CAAGCATAAC
	AGATTGTGAT	TACTATTTTG	ATCTCAAAGT	CATCTGTTGC	TCCTGGGGGA	ACACTTATAT	TTATCAAATT
	GAATAAAAGT	TTCAAGTTG	AATGAAGAAA	GGATATAAAG	AGCTTGAGGA	GCCCATTCCA	GCTTAGGAGG
	GCTGGGAAAG	GAAACCAGCA	AGTCAGTAAG	CTGTGTGCCT	GTGTATTGAG	GGAGGAGGGA	ATGGACTTGA
	TATGGAGAGG	GTAJGGAGGT	GGACTGCCTC	TATGGCCTGT	AAGAAAAACT	GCTCTCTCCA	AACTCTTTAT
25	AAGAGAGGGA	GCCTGTGAAG	TATTCACTTT	TGAAGGAGAA	AGTTAGACTT	TTCTTTCACA	CACTTTGTAC
	ATAATAAGT	TTAAAAAAG	ATGAGGTCAA	AATACATAAT	TAAGTCTTAG	CAGTTCTCTG	TTAACTAATT
	TGAGACTGAA	GTGCTATGTA	CTGTCTCTA	GGCTTCCAGT	ATCTTCATCT	GTAAACACAGA	ATATTTGGTC
	TAGATTCCAT	TAGAAATCATT	TGATAACTTA	AAAAATATAT	TGATGCTCAT	GTCTCATTTC	TTGAGATTCT
	GATTTAATTG	GTTTGGGGTG	CAGCCTGGGT	ATACGTATTT	TTCATAGGTC	TTTCACATAA	TGGTAATGGG
30	TAGCCAATAT	TGAGAATCAC	TTGTCTAGGT	GATCTTTAAA	TGATTTCTGG	ATGTAATATT	CTGAGGCTCT
	ATAATTTGAG	ACTATCACCA	AAAATCGGTA	CAGTTTATAA	ACAGACTAAC	AGAACCACAA	AATAATAGAA
	TTGGAAGGCA	ATTAACTAG	TGCAATTTCT	TCATTTTGCC	TAACAGGCAT	GTAAGAAATG	ATGATTGATT
	GAGTAATAGG	CATIGATGAC	CCCTGTCCTC	ACTTTGTCCC	CTTTCACCCC	CTTAATTATA	TGTGAATTCT
	GGTCTTGTC	TTTCGAATA	GGGGTTTATC	TTTCTTATTG	TCTTCCCCTC	TGGGCACGGC	ACACTGGCTA
35	CTGGAGTTAA	GAGGAAAATGC	TTAGGACTCC	CTGTGGCTCC	AGGGAGCACC	AACAGAGCAA	CTCAACCTAG
	TGTTAATCTG	AGTC/TTTTCT	CTGTGCTTCT	GGATGCCACA	TCACGCTAAA	AATGAAGGAC	AAAGCTTGGT
	CTTTCTCTTA	GGGAGGATGA	AACTCTGAAC	CTCATTTTTT	AGTTCCCAAG	ATGAATTATG	TTTCTCATTG
	CATCTGTGTT	CCACTACAGC	TCCGCGTGAG	AAGTACTGGC	TACAATTTTT	TATCCCATTG	TTGGTGGTGA
	TTCTGTTTGC	TGTGGACACA	GGATTATTTA	TCTCAACTCA	GCAGCAGGTC	ACATTTCTCT	TGAAGATTAA
40	GAGAACCAGG	AAAJGCTTCA	GACTTCTGAA	CCCACATCCT	AAGCCAAACC	CCAAAAACAA	CTGATATAAT
	TACTCAAGAA	ATAATTGCAA	CATTAGTTTT	TTTCCAGCAT	CAGCAATTGC	TACTCAATTG	TCAAACACAG
	CTTGCAATAT	ACATAGAAAC	GTCTGTGCTC	AAGGATTTAT	AGAAATGCTT	CATTAAACTG	AGTGAAACTG
	GTTAAGTGGC	ATGTAAATAGT	AAGTGTCTAA	TTAACATTGG	TTGAATAAAT	GAGAGATAATG	ATAGATTCTAT
	TTATTAGCAT	TTGTAAAGA	GATGTTCAAT	TTCAATAAAA	TAAATATAAA	ACCATGTAAC	ATAGATGCTTC
45	TGAGTATTCA	AGGCTTGCTA	GTTTGTFTGT	TTGTTTTCTA	CTAAAGGCAA	GGACCATGAA	GTTCTAGATT
	GGAAATGTCC	TCTCTTGACT	ATTGCAAGTG	CGATCTAGGA	ATGAAAAGAC	ATAGGAGGAT	GCCAGTGAGG
	TGGATCATTT	TTAIGCTTCT	TCTTCAGCTT	ACTAAATATG	AACTTTCAGT	TCTTGGCAGA	ATCAGGGACA
	GTCTCAAGAC	ATAGGACTCT	CAGGATGAAG	TAGAGTCCAG	GATTCTCTCT	TGATTGTTTT	GCCCTCCCA
	AATTTATATC	TTGAACCTAT	GTCTTGTATC	TTTATACAGC	ACCTGAACCA	AGCATTTTGG	AGAAATTCCA
50	GCTAATAATA	ATAACCAAA	CCTTCGGCTC	TGAAAACAGT	CCAGGACTGA	ATAAGATCTT	GGGCAAAAGA
	ACTAGACAGT	TTTGCTTTAT	TTTCCCTTTC	ATTTTATGTC	TTCATCTAGT	TCATTGGAGG	CTCATTCTTC
	TTGTCATGGA	GTAATGGGA					



	TCAAGTACTG	GTA ⁺ GAGAAC	CACAACATCT	CCATTACAAA	TGCCACAGTT	GAAGACAGTG	GAACCTACTA
	CTGTACGGGC	AAA ⁺ GTGTGGC	AGCTGGACTA	TGAGTCTGAG	CCCCTCAACA	TTACTGTAAT	AAAAGCTCCG
	CGTGAGAAGT	ACT ⁺ GGCTACA	ATTTTTTATC	CCATTGTTGG	TGGTGATTCT	GTTTGCTGTG	GACACAGGAT
5	TATTTATCTC	AACTCAGCAG	CAGGTCACAT	TTCTCTTGAA	GATTAAGAGA	ACCAGGAAAG	GCTTCAGACT
	TCTGAACCCA	CATCCTAAGC	CAAAACCCAA	AAACAACCTGA	TATAATTACT	CAAGAAATAT	TTGCAACATT
	AGTTTTTTTC	CAGCATCAGC	AATTGCTACT	CAATTGTCAA	ACACAGCTTG	CAATATACAT	AGAAACGTCT
	GTGCTCAAGG	ATT ⁺ ATAGAA	ATGCTTCATT	AAACTGAGTG	AAACTGGTTA	AGTGGCATGT	AATAGTAAAGT
	GCTCAATTAA	CAT ⁺ GGTTGA	ATAAATGAGA	GAATGAATAG	ATTCATTTAT	TAGCATTTGT	AAAAAGAGATG
	TTCAATTTCA	ATAAAATAAA	TATAAAACCA	TGTAACAGAA	TGCTTCTGAG	TAAAAAATAA	AAAAAATAAA
10	AAAAAAAA-3' (FLAG. NO: <u> </u>) (SEQ. ID NO:2502)						
	5'-TCTCAATATA	ATAATATTCT	TTATTCTCGG	ACAGCTCGGT	TAATGAAAAA	ATGGACACAG	AAAGTAATAG
	GAGAGCAAAT	CTTGCTCTCC	CACAGGAGCC	TTCCAGTGTG	CCTGCATTTG	AAGTCTTGGA	AATATCTCCC
	CAGGAAGTAT	CTTCAGGCAG	ACTATTGAAG	TCGGCCTCAT	CCCCACCACT	GCATACATGG	CTGACAGTTT
	TGAAAAAAGA	GCA ⁺ GGAGTTC	CTGGGGGTAA	CACAAATTCT	GACTGCTATG	ATATGCCTTT	GTTTGGGAAC
15	AGTTGTCTGC	TGCTACTTGG	ATATTTCACA	CATTGAGGGA	GACATTTTTT	CATCATTTAA	AGCAGGTTAT
	CCATTCTGGG	GAG ⁺ CATATT	TTTTTCTATT	TCTGGAATGT	TGTCAATTAT	ATCTGAAAGG	AGAAATGCAG
	CATATCTGGT	GAG ⁺ GGAAAGC	CTGGGAGCAA	ACACTGCCAG	CAGCATAGCT	GGGGGAACGG	GAATTACCAT
	CCTGATCATC	AAC ⁺ TGAAGA	AGAGCTTGCC	CTATATCCAC	ATCCACAGTT	GCCAGAAATT	TTTTGAGACC
	AAGTGCTTTA	TGG ⁺ TTCTCTT	TTCCACTGAA	ATTGTAGTGA	TGATGCTGTT	TCTCACCATT	CTGGGACTTG
20	GTAGTGCTGT	GTCACTCACA	ATCTGTGGAG	CTGGGGAAGA	ACTCAAAGGA	AACAAGGTTC	CAGAGGATCG
	TGTTTATGAA	GAA ⁺ TAAACA	TATATTACGC	TACTTACAGT	GAGTTGGAAG	ACCCAGGGGA	AATGTCCTCT
	CCCATTGATT	TATAAGAATC	ACGTGTCCAG	AAACACTCTGA	TTACAGGCCA	AGGATCCAGA	AGGCCAAGGT
	CTTGTTAAGG	GGCT ⁺ CTGGA	AAAAATTTCT	TTCTCTCCAC	AGCCTGCTGG	TTTT-3' (FRAG.NO: <u> </u>) (SEQ.ID NO:2503)	
25	5'-AAGCTTTTCA	AAGGTGCAAT	TGGATAACTT	TCGCCATGAG	AAATGGCTGA	ATTGGGACAC	AAGTGGGGAC
	AATTCCAGAA	GAA ⁺ GGGCACA	TCTCTTTCTT	TTCTGCAAGT	TTTTCTCACC	TTCTCAACTC	CTACTAAAAAT
	GTCTCATTTT	CAGCTTCTGT	AAATCCTGCT	AGTCTCAGGC	AAAATTATGC	TCCAGGAGTC	TCAAATTTTTC
	TTATTTTCATA	TTACTCTTTA	TTTAGTAGAC	TTCTCAATTT	TTCTATTTCAT	CACAAGTAAA	AGCCTGTTGA
	TCTTAATCAG	CCA ⁺ GAAACT	TATCTGTCTG	GCAAATGACT	TATGTATAAA	GAGAATCATC	AATGTCATGA
30	GGTAACCCAT	TTCA ⁺ ACTGCC	TATTCAGAGC	ATGCAGTAAG	AGGAAATCCA	CCAAGTCTCA	ATATAATAAT
	ATTCTTTATT	CCTG ⁺ JACAGC	TCGGTTAATG	AAAAAATGGA	CACAGAAAAGT	AATAGGAGAG	CAAATCTTGC
	TCTCCCACAG	GAGC ⁺ TTTCCA	GGTAGGTACA	AGGTATTATT	TTTTTCTACC	CTCAGTCACT	TGTGGCAGGG
	GAAGTCATAG	TCAC ⁺ GGTGCT	TAGGAGATGA	AAC ⁺ TTATTGT	ATTTAGGCAT	GTCATCCATCT	AGTTTAATTA
	ATATATTGGG	TATG ⁺ AGGAAG	CTACTTGCTG	TACTTTCCAT	GTGGTTCTCT	CTCCCTGGAG	AGGAACATTT
35	TTACTCAGCT	TGCA ⁺ AACTGG	AAATAGATTT	TCTCACATTA	GAAGCTCATT	TTCTGGGTAT	GAGACAGGAG
	AGTTCATACT	GTG ⁺ ATGTAG	ATCTCTGGCT	TCTGGGCTG	ACATGTGCTG	AGGGACACAT	ATCCTTCACA
	CATGCTTTTA	TAA ⁺ TACTTG	ATAAAGTAAC	CTGCTTCTTG	ATTGGTCTTT	ATAATCCATA	AGCTGTGGGA
	TGCTTCTCTG	AAG ⁺ TGAAAA	TAGTAATAGA	GTCCCCACTA	GCTATTCAAA	GCCATTCTCT	CATTGTATTCT
	TGTGCACATG	AAG ⁺ TGGGGT	TTGTACTAGA	CAAAATATAT	TCAGATACAT	TTCTATGTTA	AAAGGATTGT
40	GAGATGCATA	GGT ⁺ AAATGTG	TTATTTTCA	GTTTTACTTG	TCAAGATAGA	TGAATGAGAA	AGAAGTTGAA
	AGTAACACTG	GAT ⁺ TAGAAT	AGGAAAAATT	GGCATGGATT	TTGTCCATT	TGTGCCATC	TAATCACTTG
	GATAGTGTTT	AGG ⁺ GTCTCT	GGTCAGTTAC	TTGGATGCTC	TGAGCTTTAG	TTTCTTGGTG	ATTACAATGA
	AGATTGAAT	TAC ⁺ GGATGG	CTTGAAAAA	ATAAACAAAA	CTCCCCTTTC	TGTCTGTCGA	GAATGTTGCA
	CAGGGAGTTA	CAG ⁺ AATGTT	TCATGACTGA	ATTGCTTTTA	AATTTACACG	TGTGCCITGA	TTTGAAGTCT
45	TGGAATAATC	TCCC ⁺ CAGGAA	GTATCTTCAG	GCAGACTATT	GAAGTCGGCC	TCATCCCCAC	CACTGCATAC
	ATGGCTGACA	GTTTCTGAAA	AAGAGCAGGA	GTTCTCTGGG	GTGAGTGAGC	CTCCTCCAAC	TTTGACTAGA
	GTAAGGGTTG	GGT ⁺ TAGAAA	AGAATATTGA	GTTGCATCAA	CTGTTTCCC	ACTTGGATTCT	ATGAGAGGTG
	TTAGGTCCTT	TAAAAAACAT	GGTAGATAAA	GAGTTGACAC	TAACCTGGGT	CTTTTGGGAA	GAGCCAGAAG
	CATTTCTCTA	TAAAGACTTT	AAATTGCTAG	GACGAGAATG	GCCAACAGGA	GTGAAGGATT	CATAACTTTA
50	TCTTTACTTA	GATG ⁺ AAAGA	ACAATTACTG	ATGTTCAACA	TGACTACATA	CATAAAGGCG	CATGGAGAAA

[illegible]



	TAAGAGGCTG	AGGACGAGAG	CTGTGTTGAA	CCTGGAAGGC	AGAGGTTGCA	GTGAGCTGAG	ATTGTGCCAT
	TGCACTCCAG	CCTCGGCAAT	AAGTGCGAAC	TCTGTCTCAA	AATAATAATA	ATAATAATAG	AAAAATAAAGT
	TGTCTTCATG	AAAATGAGG	AAAGAGATTG	CTGGGGTGAG	AAACATTAAG	ATCAATGGGC	ATATGGTGAC
	CTTCTATGCC	CTAGAAACTC	TTTTANGGTA	TTTTCCTCTG	GTATCTCTTT	TACNCATCGT	TCTATCTGGA
5	AAAATAGGTG	GATGAGTGAG	ATAATAACGG	TATATACTTT	TTAAAGGTCT	AATTGACATA	TATAAATTGC
	AAGTATTTCA	GATGTCAATT	TGCTAACCTT	GACACACATA	GACACACATG	AAAAACATCA	CACATTAATA
	CAATGTATGT	ATCATCATTT	CCAAAGCTT	CCCTGTGTAT	CTTTGTAACT	CTTTCTTCCT	CCCTCCACTC
	CTTGTCTCT	CGTICCCAAG	AAAAACATTG	TCTGCTTCCT	GTGAATATAA	ATTAACCTTAC	ATTTTITAGA
	GCTTTATATA	AGTATGTTCT	CTTTACTGTT	TGTCTTCCTT	CGCTGCACAG	TTATTTTGAG	ATTCTTCAAG
10	TTTTTCTTT	ATATCGATAC	TTCATTCAAC	AGAATATATT	TTAATTCTAG	ACTATGTCAC	ATTGACTTTG
	TGCTCTGCTA	AATCTTCTAGT	GCTCAGATGA	CTTGTTCAGG	ACTCTCCTTG	AACCTGTACC	TCTGTTANA
	TGAAACTTGT	CTCTACTGTC	TTTTTATTTT	AAACACAGCT	TATTAGGTGT	CTCTCAACCC	ATCAAAACNCA
	CAATCTGAGT	CTTTAGGAGA	TTGCTTTGAA	TTTGTGCTAT	TGACTTATAT	NTATATNAAA	TNTGTAAATG
	TTTGGTAAAT	ATAATCATCAT	GTACNTTTTC	ATAATTACGC	TATNTNCACA	TGATATATGT	CAGACTCTGG
15	AAATATGCAT	GCCACAGACA	CGTGTTCCTT	GCCTAAAGGG	GCTGATGGAA	GACNCACATA	CNAATAGACG
	ATTGCAGTAG	AATGAGAGTG	GTGGTCTAAN	CAGTACATGT	CTGATGTGTG	CTCGGACAGT	TACTACNCCA
	AGAGTACCCC	CTGCATTGTC	AGGGTTAGCA	TCTCCTGGAA	GCCTCATGTA	ATGAAGAAT	TTCATGCTCC
	ATCCAGGACC	TAAATGAATA	GAATCTGCAT	TTTAGCAAGA	CCCTCATATG	ATTCTATATAC	ACTTTTTTTT
	TTTTTTTTTA	GATGGAGTCT	CACTCTTGTC	GCCCAGGCTG	GAGTGCAATG	GCATGATCTT	GGCTCACTGC
20	AACCTCTGCC	TCCCAGGTTT	AAGTGATTCT	CCTGTCTCAG	CCTCCCTAGT	AGCTGGGACT	ACAGGTGCAT
	GCCACAGTGG	CTGCTTAATT	TTTGTAATTT	TAGTAGAGAC	AGGGTTTCAC	CATTTTGGTC	AGGCTGGTCT
	TGAACTCATG	ACCTCCGGTG	ATTCCCCCGC	CTCGGCTTCC	CAAAGTCTGT	GGATTACAGA	CATGAGCCAC
	CACACCCGCC	TTATTCGTAT	ACNCATTTAA	TTCTGAGAAG	CACCTATAGT	AAAATAAGAA	TAAGAAAATA
	TTGGGCTCAC	AGGTACATT	AAATAAGTAAC	TTTATCGAGT	ACCCCAAATT	TTACCTATGT	TTGGAAGATG
25	GGGTAAAAAG	GACACATTGA	AAACAAGAAC	TCATTGTGGC	TTTTTTTTTC	TCCTTTTTGA	ACAGTTTTCT
	ATTTCTGGAA	TGTGTGCAAT	TATATCTGAA	AGGAGAAATG	CAACATATCT	GGTGAGTTGC	CCGTTTCTGT
	CTTTGTCCAT	CCTTAAAAG	ATAAGAAGAA	CAGAGTTTAA	AGAGTCTTAA	GGGAAACACA	TCTTTGTCTC
	CTATATTACT	TGTC AATGTG	GATATATGAT	TTTGTTCCAA	TCTATTTTGT	GTCCTAAGGC	TTTTTGCAAC
	AGAAGTTTGA	TATATCATTA	GAAACATAAA	TTGTACCATT	TAACATACAT	GAAGTTTATG	TTTACCTTGA
30	CGTCTTTCTA	AAAATGTGTC	TACACCGGCA	TTGTCTCTGT	AGGCATATTC	ACATGATCAA	ATAAAAATAAT
	TAGTTTTTCAA	TTAAGGAGAA	TATTTGAGGA	AAGACCGTAC	GTGTTTATGT	GGTTCCTGAA	GGCAGTCCAG
	TGAGAAAAGTA	ATAATATGCTT	CATTAACAAC	TGCGGACATT	TTTAGGGTTT	CCCTTTTTAA	CCAAAATTTG
	GAAGCAATGT	GGAATTTACT	GGATGCATCC	AGCCCTGAAA	TGAAGATAGG	TTTATTGAAT	GTGCCAGCAA
	GTGCAGGCCC	AGGTCTGAGT	GTTCTTCATT	ATTATCAGGT	GAGAGGAAGC	CTGGGAGCAA	ACACTGCCAG
35	CAGCATAGCT	GGGGGAACCG	GAATTACCAT	CCTGATCATC	AACCTGAAGA	AGAGCTTGGC	CTATATCCAC
	ATCCACAGTT	GCCAGAAATT	TTTTGAGACC	AAGTGCTTTA	TGGCTTCCTT	TTCCACTGTA	TGTATTTTTT
	TTTGTGTGGG	AAGATAAAGA	TTCTGGGTCC	TAATGTAAAGT	AAGAAGCCCT	CTTCTCCTGT	TCCATGAACA
	CCATCCTTTT	CTGTAACCTC	TATTACACAG	TATAGTGGTT	CTGTAAGTTC	ACACAGCCCA	GGGAGATGCT
	GGCTGCCAC	TCCCTCAAC	CCAGGCAAAAT	TCTCTGGGGT	TAAAGTTATC	TACTGCAAGT	GACGATCTCT
40	GGGTTTTTCT	GTGCTGTGT	TTGTGTGTGT	GTGTGTGTGT	GTGTGTGTGT	GTATGTGTCA	CTTTAAAAGG
	ACTGGTCAGA	TGGTAGGGAG	ATGAAAACAG	GAGATGCTAT	AAGAAAATAA	ACTTTTGGGG	CGAATACCAA
	TGTGACTCTT	TTTGTTTGTC	ATTTGTTGCT	GTTCAATAGG	AAATTGTAGT	GATGATGCTG	TTTCTACCA
	TTCTGGGACT	TGGTAGTGCT	GTGTCACTCA	CAATCTGTGG	AGCTGGGGAA	GAACCTAAAG	GAAACAAGGT
	AGATAGAAGC	CCGATATAAA	ATCTTGAATG	ACAGGTTAAC	GAATTGGAGC	TTTATTCCTT	AAAAATATGGC
45	CTGGGTTTTT	TGAACATTT	CTTCCAGAAA	ATAGTTTCTC	CAGTTTATAT	TACTTTGGTT	TACAAATCTC
	ACATTTAAAT	CGCACTTTAT	ACCATAAGTA	GCACACATTT	CATAATATTC	CTCTGAATGA	GGGTTGGGAT
	AATAGGACTG	ATAATGTTAGA	AATGCCTTAA	AGTGTGTGGA	GCATGAGAGA	TGGATGTACA	GAAAGGCTGT
	GAGGAAACCA	CCAGGTATC	TGGCCTTGTT	TTCTGCCCCA	GAAGTAGCCG	CCTATTCTCTG	TTTCTGTTTT
	ATTCCTTTGT	TTCTTGACTT	TTCTTTTCCA	ACTTGCTCTA	AAACCTCAGT	TTTCTTTTCT	TTCTGATTCA
50	TGACTACCAA	ATGTTTTCAC	TTGCCTCACC	CGTCCATTAC	ACCTTTGATA	AGAACCACCA	GACCTTGTGC
	TCATGTACTT	GCCCATGTCT	GATGGAAGAA	ACATACTCTC	TCCATCTGTC	CACTTTCTCTG	AGGCATTCAA
	GTCTAGCCAC	CTTTTAAAAAT	CACCTCTCCT	CAGGCTGGGC	ACGGTGTCAAC	GCCTGTAATC	TCAGCACTTT
	GTGAGGCTGA	GGAGGGCGGA	TCACTTGAAG	TCCAGGAG			

[illegible]

TGGTTTTCTG GAAATGAAAG AAATAATCAG AGTTTAATGA CAGAGAGCGT GAGACCCAGA AAGACAAAAG
 TAGATGAGGT AAGTCTCTTG AGCGAGACTT CTAGGGATGG GAAATTTGTG GTGATTGATA TGAAATGATT
 TTTCCCTTAT CAGCTTCCAG AGGATCGTGT TTATGAAGAA TTAACATAT ATTACAGTAC TTACAGTGAG
 TTGGAAGACC CAGGGGAAAT GTCTCCTCCC ATTGATTTAT AAGAATCACG TGTCCAGAAC ACTCTGATTC
 5 ACACCCAAGG ATCCAGAAGG CCAAGGTTTT GTTAAGGGGC TACTGGAAAA ATTTCTATTCT TCTCCACAGC
 CTGCTGGTTT TACAATTAGAT TTATTCGCCT GATAAGAATA TTTTGTCTCT GCTGCTCTCG TCCACCTTAA
 TATGCTCCTT CTAATTGTAG ATATGATAGA CTCCTATTTT TCTTGTTTTA TATTATGACC ACACACATCT
 CTGCTGAAAA GTCATACATGT AGTAAGCAAG ATTTAACTGT TTGATTATAA CTGTGCAAAT ACAGAAAAAA
 AGAAGGCTGG CTGAAAGTTG AGTTAAACTT TGACAGTTTG ATAATATTTG GTTCTTAGGG TTTTTTTTTT
 10 TTTTAGCATT CTTAATAGTT ACAGTTGGGC ATGATTTGTA CCATCCACCC ATACCCACAC AGTCACAGTC
 ACACACACAT ATGTAATTACT TACACTATAT ATAACCTCCT ATGCAAATAT TTTACCACCA GTCAATAATA
 CATTTTTGCC AAGAATGAA GTTTTATAAA GATCTGTATA ATTGCCTGAA TCACCAGCAC ATTCAGTGAC
 ATGATATTAT TTGCAGATTG ACAAGTAGGA AGTGGGGAAC TTTTATTAAG TTACTCGTTG TCTGGGGAGG
 TAAATAGGTT AAAACACAGG AAATTATAAG TGCAGAGATT AACATTTTAC AAATGTTTAG TGAAACATTT
 15 GTGAAAAAAG AAGACTAAAT TAAGACCTGA GCTGAAATAA AGTGACGTGG AAATGGAAAT AATGGTTATA
 TCTAAACAT GTAGAAAAAG AGTAACTGGT AGATTTTGT TACAAATTA AGAATAAAGT TAGACAAGCA
 ACTGGTTGAC TAAATACATTA AGCGTTTGAG TCTAAGATGA AAGGAGAACA CTGGTTATGT TGATAGAATG
 ATAAAAAGGG TCGGCGCGCG AGGCTCACGC CTGTAATCCC AGCCCTTTGG GAGGCCGAGG TGGGCAGATC
 ACGAAGTCAG TAGTTTGAGA CCAGCTGGC CAACATAGTG AAACCCCGTC TCTACTAAAA ATACAAAAAA
 20 AAAATTAGCT GGGTGTGGT CAGATCACCT GTAGTCCCAG CTACTTGGGA GGATGAGGCA GGAGAATCGC
 TTGAACCTGG GAGCGCGAGG TTGCAGTGAG CCGAGATCGC ACCAGTGAC TCCAGCCTTG GTGACAATGG
 GAGACTCCAT CTCAAAAAAA AAAAAAAGATA AAAAGTCAGA AATCTGAAAA GTGGAGGAAG
 AGTACAAATA GACTTAAATT AAGTCTCATT TTTTGGCTTT GATTTTGGGG AGACAAAGGG AAATGCAGCC
 ATAGAGGGCC TGAATGACATC CAATACATGA GTTCTGGTAA AGATAAAATT TGATACACGG TTTGGTGTCA
 25 TTATAAGAGA AATCTATTATT AAATGAAGCA AGTTAACACT CTAAGAGAAT TATTTTGAGA TAGAAGTGAA
 GCTAAGCTAA ACTTCACATG CCTATAATTG GAGGGAAAAA CTAAGGATAA AATCTAGCCT AGAAGATACA
 ATAATTAGTC ATAACATGC ATTGTGAAAC TGTAGAGAGC AGGTAGCCCA AAATAGAGAA AGATTAGATA
 AAGAGAAAAAT AAGTATCCAT CAGAGACAGT ATCTTAGGC GAGAAAAACAG TGGGCAAGA GAAAAGTCCA CAGTGATAAG
 CAACTCCACC TAACGCATGA ATATGCGGCA GAGAAAAACAG CAATAGTGAA TGAATGCAAA AGGTGCTGAG
 30 CAAATTCCAC ACATGAGTAT TGTGCATGAG TAAATGAATA AAACATTTGC AAAGACCTTT AGAGAAAGAG
 AATGGGAGCA TATCTGCGAA ATAAGATAGT TGATTATGAA TAGAAGGTAG TGAAGAAAAG CAAGCTAAGA
 AAAAAATTCTG TTTTAAAAAG AAGGAAAAGA TAGTTTATGT TTTAGCCTA AGTATAAGAG TCCTACAGAT
 GGACTGAAAA AAATCAGTCT GAGAGTATTA GTCACAATTA ATGAAATAAT TACATTTTAT GTATTGAGGA
 TGCCAAGATT AAAAGGTGAC AGGTAGATGT TAATTTCCCT AGATTGTGAA AGTGATCACG ACAATCACAC
 35 AACAATAAT TAAATGACTT GGTATGCTTT ATTAAATTG CAGCAATAA AAAACCCCTAC CCTTCCATT TGTATCTGC
 TAAAATACAA TTTTGTCTT CCAAAATTGA CCAATGATAA CACATCACTT CCATGGCATG GATGTTTACA
 TAAGCTGCAT CTCTACTCTT GATCATCTGT AGGTATTAAT CACATCACTT CCATGGCATG GATGTTTACA
 TACAGACTCT TAACCTGCTT TTACCAGGAC CTCTAGGAGT GGATCCAATC TATATCTTTA CAGTTGTATA
 GTATATGATA TCTTTTAT TTTACTCAAT TTATATTTT ATCATTGACT ACATATTTCT TATACACAAC
 40 ACACAATTTA TGAATTTTTT CTCAAGATCA TTCTGAGAGT TGCCCCACCC TACCTGCCCT TTATAGTACG
 CCCACCTCAG GCAGACACAG AGCACAATGC TGGGGTTCTC TTCACACTAT CACTGCCCA AATTGTCTTT
 CTAAATTTCA ACTTCAATGT CATCTTCTCC ATGAAGACCA CTGAATGAAC ACCTTTTCAT CCAGCCTTAA
 TTCTTGCTC CATACTACT CTATCCCAG ATGCAGTATT GTATCATTA TTATTAGTGT GCTTGTGACC
 TCCTTATGTA TTCTCAATTA CCTGTATTTG TGCAATAAAT TGGAAATAATG TAACTTGATT TCTTATCTGT
 45 GTTTGTGTTG GCATGCAAGA TTTAGGTACT TATCAAGATA ATGGGGAATT AAGGCATCAA TAAATGATG
 CCAAAGACCA AGATCAGTTT CTGAAGTCCT CCTTTTCATC AGCTCTTTAT CAAACAGAAC ACTCTATAAA
 CAACCCATAG CCACAAAACA GGATGTAGGA ACAATCACC GCACACTCTA TAAACAACCC ATAGCCAGAA
 AACAGAATGT AAGGACAATC ACCAGCCATC TTTTGTCAAT AATTGATGGA ATAGAGTTGA AAGGAACTGG
 AGCATGAGTC ATAATTGACC AGTCAGTCCT CACTCTTATT TACTTGCTAT GTAAACTTGA GAAAGCTTTT
 50 TTCTCTTTGT GAACCTCAGG TTTTACATCT GAAATAGAGA AATTTGGAAC AAAAGATTCT TAACTGGTCT
 TTCTGTTCCC ATATCTGTG ATTTTCAAT ATTTAGGATT TTTGGTAATC ACAATTACTT AGTTTGTGGT
 TGAGATAGCA ACACGAATCA GAACATTTG GTGGACATAT TTTCAAAGGA GTAGCTCTCC ACTTTGGGTA
 AAGAAAGTAT GCNGGTCGTG GTGGCTCACG CCTGTAATCC CAGCACTTTA GGGAGGCCAA GCGGGGTGGA
 TCACGAGGTC AGGAGATCGA GACCATCCTG GCTAACACGG TGAAACCCCG TCTCTACTAA AAAATACAAA
 55 AAATTAGCCA GGCCTGGTGG CGGGCGCCTG TAGTCCCAG TACTCGGGAG GCTGAGGCAG GAGAATGGCA
 TGAACCAGGG AGGCGGAGCT TGCCGTGAGC CGAGATAGCG CCACTGCAGT CCCTCCTGGG CAAAAGAGCA
 AGACTGCGTC TCAAAAAAAA AAAAAAAGAA AAAAAAAGAA GTGTGTGGAG TAGCAGGACA CCTGCAACAA
 TAATATTTT CTAAATCCCT CTGAAAAATG CTAATCAAG GGTTTTTTTC CTAAAAATG TCTTAGAAAT
 AAAATTTCCC CTTTGGGAGA CCGAGGCTGG CAGATCACA GGTCAAGGAG GGTGAGACC GGTGAAACCC
 60 CGTCTCTACT AAAATACTA AAAATTAGCC GGGNGTGGT GGTGGGTACA CCTGTAGTCC CAGCTACTTG
 GAGGCTGAGG CTGGAATC ACGTGAAC-3' (FRAG. NO:)(SEQ. ID NO:2504)

0040629629660
 0040629629660

Human Histidine Decarboxylase Nucleic Acid and Antisense Oligonucleotide Fragments

5'-TCT CCC TTG GGC TCT GGC TCC TTC TC TCT CTC TCC CTC TCT CTC TGT CGC CTC CGC CCT GGC TGC
TGG GGT GGT GGT GC TTT TGT TCT TCC TTG CTG CC GCC CCG CTG CTT GTC T TC CTC G CTC TGT CCC TCT
CTC TCT GTB CTC CTC BGG CTC CBT CBT CTC CCT TGG GC-3' (FRAG. NO:1700) (SEQ. ID NO:1711)

5'-GGC TCT GGC (FRAG. NO:1701) (SEQ. ID NO: 1712)

5'-CCC TTG G (FRAG. NO:1702) (SEQ. ID NO: 1713)

5'- TT TGT TCT TCC (FRAG. NO:1703) (SEQ. ID NO: 1714)

5'- TCT CCC TTG GGC TCT GGC TCC TTC TC-3' (FRAG. NO:1024) (SEQ. ID NO: 1034)

5'- TCT CTC TCC CTC TCT CTC TGT -3' (FRAG. NO:1025) (SEQ. ID NO:1035)

10 5'- CGC CTC CGC CCT GGC TGC TGG GGT GGT GC-3' (FRAG. NO:1026) (SEQ. ID NO:1036)

5'- TTT TGT TCT TCC TTG CTG CC-3' (FRAG. NO:1027) (SEQ. ID NO:1037)

5'- GCC CCG CTG CTT GTC T TC CTC G-3' (FRAG. NO:1028) (SEQ. ID NO:1038)

5'-CTC TGT CCC TCT CTC TCT GTB CTC CTC BGG CTC CBT CBT CTC CCT TGG GC (FRAG. NO:1029) (SEQ. ID NO:1039)

Human Beta Tryptase Nucleic Acid and Antisense Oligonucleotide Fragments

15 5'-CTT GCT CCT GGG GGC CTC CTG GTC CCT CCG GGT GTT CCC GGC GGG CCT GGC CTG GGG CBG GGG CCG
CGT BGG CGC GGC TCG CCB GGB CGG GCB GCG CCB GCB GCB GCB GBT TCB GCB TCC TGG-3' (FRAG.
NO:1704) (SEQ. ID NO: 1715)

5'- GCT CCT GGG GGC CT-3' (FRAG. NO:1705) (SEQ. ID NO: 1716)

5'-CGT BGG CGC-3' (FRAG. NO:1706) (SEQ. ID NO: 1717)

20 5'-T GGC CTG GGG-3' (FRAG. NO:1707) (SEQ. ID NO: 1718)

5'-CTT GCT CCT GGG GGC CTC CTG-3' (FRAG. NO:1030) (SEQ. ID NO:1040)

5'-GTC CCT CCG GGT GTT CCC GGC-3' (FRAG. NO:1031) (SEQ. ID NO:1041)

5'-GGG CCT GGC CTG GGG CBG GGG CCG CGT BGG CGC GGC TCG CCB GGB CGG GCB GCG CCB GCB GCB GCB
GBT TCB GCB TCC TCG-3' (FRAG. NO:1032) (SEQ. ID NO:1042)

Human Tryptase-I Nucleic Acid and Antisense Oligonucleotide Fragments

25 5'-CTT GCT CCT GGG GGC CTC CTG GTC CCT CTG GCT G TT CCC GGC CCT GGB CTG GGG CBG GGG CCG CGT
BGG CGC GGC TCG CCB GGB CGG GCB GCG CCB GCB GCB GCB GGC TCB GCB TCC TGG CCB CGG BBT TCC-3'
(FRAG. NO: 1708) (SEQ. ID NO:1719)

5'-CT CCT GGG GGC CTC CTG-3' (FRAG. NO:1709) (SEQ. ID NO:1720)

30 5'-B TCC TGG CCB CGG BBT TCC -3' (FRAG. NO:1710) (SEQ. ID NO:1721)

5'-GTC CCT C-3' (FRAG. NO:1711) (SEQ. ID NO:1722)

5'-CTT GCT CCT GGG GGC CTC CTG-3' (FRAG. NO:1033) (SEQ. ID NO:1043)

5'-GTC CCT CTG GCT T TT CCC GGC-3' (FRAG. NO:1034) (SEQ. ID NO:1044)

35 5'-CCT GGB CTG GGG CBG GGG CCG CGT BGG CGC GGC TCG CCB GGB CGG GCB GCG CCB GCB GCB GCB GGC
TCB GCB TCC TGG CCB CGG BBT TCC -3' (FRAG. NO:1035) (SEQ. ID NO:1045)

Human Prostaglandin D Synthase Nucleic Acid and Antisense Oligonucleotide Fragments

5'-GGT GTG CGG GGC CTG GTG CC CCT GGG CCT CGG GTG CTG CCT GT GCG CTG CCT TCT TCT CCT GG GTC
CTC GCC GGG GCC CTT GCT GCC CTG GCT GT GCC CTG GGG GTC TGG GTT CGG CTG T CCC CBG CBG GBC
CBG TCC CBT CCB CBG CGT GTG BTG BGT BGC CBT TCT CCT GCB GCC GBG-3' (FRAG. NO:1712) (SEQ. ID NO:1723)

40 5'-T TCT CCT GCB GCC GBG -3' (FRAG. NO:1713) (SEQ. ID NO:1724)

5'-CTT GCT GCC CTG GCT GT-3' (FRAG. NO:1714) (SEQ. ID NO:1725)

5'- TCT TCT CCT GG-3' (FRAG. NO:1715) (SEQ. ID NO:1726)

5'-GGT GTG CGG GGC CTG GTG CC-3' (FRAG. NO:1036) (SEQ. ID NO:1046)

5'-CCT GGG CCT CGG GTG CTG CCT GT-3' (FRAG. NO:1037) (SEQ. ID NO:1047)

45 5'-GCG CTG CCT TCT TCT CCT GG-3' (FRAG. NO:1038) (SEQ. ID NO:1048)

5'-GTC CTC GCC GGG GCC CTT GCT GCC CTG GCT GT-3' (FRAG. NO:1039) (SEQ. ID NO:1049)

5'-GCC CTG GGG GTC TGG GTT CGG CTG T-3' (FRAG. NO:1040) (SEQ. ID NO:1050)

5'-CCC CBG CBG GBC CBG TCC CBT CCB CBG CGT GTG BTG BGT BGC CBT TCT CCT GCB GCC GBG -3'
(FRAG. NO:1041) (SEQ. ID NO:1051)

Human Cyclooxygenase-2 Nucleic Acid and Antisense Oligonucleotide Fragments

50 5'-GGG CGC GGG CGB GCB TCG C TTT GGG CTT TTC TCC TTT GGT T TGB GCG CCB GGB CCG CGC BCB GCB
GCB GGG CGC GGG CGB GCB TCG CBG CGG CGG GCB GGG-3' (FRAG. NO: 1716) (SEQ. ID NO:1729)

5'-G GCB GGG -3' (FRAG. NO: 1717) (SEQ. ID NO: 1730)

5'-TCC TTT GGT T-3' (FRAG. NO:1718) (SEQ. ID NO:1731)

55 5'- GGG CGC GGG CGB GCB TCG C-3' (FRAG. NO:1042) (SEQ. ID NO:1052)

5'- TTT GGG CTT TTC TCC TTT GGT T-3' (FRAG. NO:1043) (SEQ. ID NO:1053)

5'-TGB GCG CCB GGB CCG CGC BCB GCB GCB GGG CGC GGG CGB GCB TCG CBG CGG CGG GCB GGG -3'
(FRAG. NO:1044) (SEQ. ID NO:1054)

004040"6494350

Human Eosinophil Cationic Protein Nucleic Acid and Antisense Oligonucleotide Fragments

5'-CCT CCT TCC TGG TCT GTC TGC CBG BCB BBT TTG GGB BGT GBB CBG TTT TGG BBC CBT GTT TCC CBG TCT CTG BGC TGT GGC-3' (FRAG. NO: 1719) (SEQ. ID NO: 1732)

5'-TTC TCC TTT GGT T-3' (FRAG. NO:1720) (SEQ. ID NO: 1733)

5'-T TTC TCC TTT GGT T-3' (FRAG. NO:1721) (SEQ. ID NO:1734)

5'- GGG CGC GGG CGB GCB TCG C-3' (FRAG. NO:1042) (SEQ. ID NO:1052)

5'- TTT GGG CTT TTC TCC TTT GGT T-3' (FRAG. NO:1043) (SEQ. ID NO:1053)

5'-TGB GCG CCB GGB CCG CGC BCB GCB GCB GGG CGC GGG CGB GCB TCG CBG CGG CGG GCB GGG -3' (FRAG. NO:1044) (SEQ. ID NO:1054)

Human Eosinophil Derived Neurotoxin Nucleic Acid and Antisense Oligonucleotide Fragments

5'-GCC CTG CTG CTC TTT CTG CT TCC CTT GGT GGG TTG GGC C GCT GGT TGT TCT GGG GTT C TTG CTG CCC CTT CTG TCC C TGT TTG CTG GTG TCT GCG C 5'- CCC CBB CBG BBG BBG CBG BCB BBT TTG GGB BGT GBB CBG TTT TGG BBC CBT GTT TCC TGT-3' (FRAG. NO: 1722) (SEQ. ID NO: 1735)

5'-TTC CTG T-3' (FRAG. NO:1723) (SEQ. ID NO: 1736)

5'-CTC TTT CTG CT-3' (FRAG. NO: 1724) (SEQ. ID NO:1737)

5'-CCC CTT CTG TCC C-3' (FRAG. NO:1725) (SEQ. ID NO: 1738)

5'- GCC CTG CTG CTC TTT CTG CT-3' (FRAG. NO:1047) (SEQ. ID NO:1055)

5'- TCC CTT GGT GGG TTG GGC C-3' (FRAG. NO:1048) (SEQ. ID NO:1056)

5'- GCT GGT TGT TCT GGG GTT C-3' (FRAG. NO:1049) (SEQ. ID NO:1058)

5'- TTG CTG CCC CTT CTG TCC C-3' (FRAG. NO:1050) (SEQ. ID NO:1057)

5'- TGT TTG CTG GTG TCT GCG C -3' (FRAG. NO:1051) (SEQ. ID NO:1059)

5'- CCC CBB CBG BBG BBG CBG BCB BBT TTG GGB BGT GBB CBG TTT TGG BBC CBT GTT TCC TGT-3' (FRAG. NO:1052) (SEQ. ID NO:1060)

Human Eosinophil Peroxidase Nucleic Acid and Antisense Oligonucleotide Fragments

25 5'-GCG CTC GGC CTG GTC CCG G GGG TCT CCT CTT GTT GTT GC TTG CGC CTC CTG CTG GGG GT CC CTC TGT TCT TGT TTT GGG GGC GGG CCC GGC CGT TGT CTT G GTT TGG GGG TTT CCG TTG GGG TTC TCC TGG CCC GGG CCT TGC CC GGC CGT GGT CCC GGC TTC GTTCTT GTC TCC GTC TCG GCT CTT CTG GGG CCT TGC GCT GTC TTT GGT G 5'-GCB CCG TCC BGT GBT GGT GCG GTB CTT GTC GCT GCB GCG CTC GGC CTG GTC CCG GBG BGC CACCGCTCTT GTGAGCCAAC AAATATCCAT TGAGCGACAC CTGTGTCCCA GGTGCTGCTC TGGGCCCTGG

30 GAGAAGTGCA TCAGTGGGCT TGGTAGTAGA GGGTAGGGAT GGAGTGAAGG GTAGGCAGGA AGAATGTCCC CAGGCTGGTA GGAAGGTGGG TGGGGGGTTT CAGTCTCAA ACTCCCATGA AAACCAAGAGA GAAATTTTCCG AACTCCACCC AAGAAGGCTGG GTTTCTAGGG CCCAGAGCTG CCCTCCCCCA CCCTAGAATG GGCTATAAAAA GTCCCTTCCC AGCTACGTCC AGAGAAGAGC TGGAGGAAGT GAGAGGTCGG CTGGGGGTCC TCAAAGTGAG AGGGGAGCAG AGGATCCTCC CGTGCAGGCT GTGGATGTCA CTCACTTCCC AGCTGGTGAA GCCTCGCTGC

35 AGAGATGCAT CTGCTCCAG CCCTGGCAGG GGTCTGGCC AACTCGTCC TCGCCAGCC CTGTGAGGGC ACTGACCCAG GTAATAGTCC CBTAGACAGG CAAGGAGGAG GGAGGGGAAA TGGAAGGGGA AGCACTTGGG TCTTGGAGGG GGTCTGTGG CTTGTGAAC CCTGAGTCCC CATCTCTTTG AACAGCCTCC CTTGGGGCAG TGGAGACCTC GGTCTGTGCA GACTGCATAG CAGAGGCCAA GTTGTGTGGT GATGTGCTT ACAATTGGAC CCAGAAGAGG TGGCTTGGG TCTGGGGGCT GCATGGGCCT GGGAGGATCA GT TAATACCTTG TGGGGTCAGG

40 GAGCCCATGT CCCGTGCTGA TGTTATTTCC CCACCAGGTC CGGGCTGTCT CCAACCAGAT TGTGCGCTTC CCCAATGAGA GACTGACCTC CGACCGTGGC CGAGCCCTCA TGTTCATGCA GTGGGGCCAG TTCATTGACC ATGACCTGGA CTCTTCCCCG GAGTCCCCCG CCAGAGTGGC CTTCACTGCA GGCGTTGACT GTGAGAGGAC CTGCGCCAG CTGCCCCCT GCTTCCCAT CAAGGTACCT ACCCTCAGCC AATCTCCAT GCCCTTGTGT GGCCTCCCC AAACGCAAGG TGCTGGGGGT GGGGATCTGG AAGACTGGAG CACCATCCTT AAGGAGCTGC

45 CTGTGGAGCT AGGGTATGAG ACAGAGACAC AAG CACTGTCTCC TCTTCCATCT CAGATCCCAC CCAATGACCC CCGCATCAAG AACGAGCGTG ACTGCATCCC TTTCTTCCG TCGGCACCT CATGCCCCCA AAACAAGAAC AGAGTCCGCA ACCAGATCAA CGCGCTCACC TCCTTTGTGG ACGCCAGCAT GGTGTATGGC AGTGAGGTCT CCCTCTCGCT GCGC CTCCGC AACCGGACCA ACTACCTGGG GCTGCTGGCC ATCAACCAGC GCTTTCAAGA CAACGGCCGG GCGCTGCTGC CTTTCGACAA CCTGCACGAT GACCCCTGTC TCCTACCAA CCGCTCGCG CGCATCCCC GCTTCTGGC AGGTGAGACA GGGAGGAAGG TGGTGTCTTC CCAGGAAACA GCCATCCCTG GGGTCCCAAC TGGGAAGCAA TGGTGGGATG TGGTGAAGGT ACATGGTTTG GGACCTCAGT ATTAGGCACA CCATAAGCAT GGATCTGTGC AC TGAAGAGATG GAGGTCCAGT GAGGGCCAGG AGTTTGCCCC ACCCGTCTC TCCCATCCCC AGCCCTGGGT CTACCCTGGT AGAAGACAT TTCTCTGGGA AAGGCTGAC TAAATCTGAG CTTGGGGTTT TCAAGGTGAC ACCGATCAA CGGAAACCC CAACTGGCA GCCATGCACA CCCTCTTAT

55 GCGAGAGCAC AACGGCTGG CCACCGAGCT GAGACGCTG AATCCCCGGT GGAATGGAGA CAACTGTAC AATGAGGCTC GGAAATCAT GGGGGCCATG GTCCAGGTAA GGAGCTCTGC ATCCAGCAT CCCCC CTTTGTATCT CCACCCACCA ATAGTAAATT AATGTTGTCA CATTGACGT GATGACAATA AAGAATATGT CTGAGCCACC CTTTGAAGG GCAAGGGTAT GGGTGAGTAG CCTCTGGGGA ATGTTCTCT TGTCTTCCCT TCCAGATCAT CACCTACCGA GACTTCTG CCGTGGTTCT GGGCAAGGCC CGGGCCAGGA GAACCCTGGG GCACTACAGG

60 GGGTACTGCT CCAATGTGGA CCCACGGGTG GCCAATGTCT TCACCCTGGC CTTCGCTTT GGCCACACAA

TGCTCCAGCC CTTCATGTTC CGCTTGGACA GTCAGTACCG GGCCTCCGCA CCCAACTCGC ATGTCCCCT
 TAGCTCTGCC TTCTTTGCCA GCTGGCGGAT CGTGTATGAA GGTGACCAGG TTTTCCAGGG GGCAAATGGG
 GGTGAGGGTG GGGAGCATGC CCTCCCCTAG GTGG TCCAGCTGCT TCATGTCTCT CCAGAACTCT GTTTCCTGAC
 5 AAACGTTACT AACATACCCG ACTGGCTTGT CCAGCTCTGG GCTAGCTTGG CATCATGTGA TAACCCAAGT
 AGCTTCCAG AGGCTGGTCC AATCTGTGCT GCTCACATTC CCTGCCACCA GGGGGCATCG ACCCCATCCT
 CCGGGGCCTC ATGGCCACCC CTGCCAAGCT GAACCGTCAG GATGCCATGT TAGTGGATGA GCTCCGGGAC
 CGGCTGTTTC GGCAGTGAG GAGGATTGGG CTGGACCTGG CAGCTCTCAA CATGCAACGA AGCCGGGACC
 ACGGCCTTCC AGGAGAGGGG GCTGTCCACC TCTTCTCCA GCTTTGCTCG GGCCAGGCTG CTCAAGGGGT
 TCTGGGAAGA CCTTGGTACC CGACTGCCTG GTAGGTTCTG GTGGCAGAAA CGAGGTGTTT TCACCAAAAG
 10 ACAGCGCAAG GCCCTGAGCA GAATTTCTCT GTCTCGAATT ATATGTGACA ATACCGGTAT CACCACGGTT
 TCAAGGGACA TCTTCAGAGC CAACATCTAC CCTCGGGGCT TTGTGAACTG CAGCCGTATC CCCAGGTTGA
 ACCTATCAGC CTGCGGAGGG ACATGAGGCT TCTGCAGGTA AGGGGAGGCC ACCTCCAGCA CCTTGGGCTG
 GTTAAGCCTC ACACTCTTCC CTGGATGGAT GGCTGAGTCC TCTTAGGTCT CTAAGCAGAG AAAACAGAAC
 TTGTCACTAG GTACTCTTTC CAAGTGGCTT CCAATGTGCT TAGTTTCTGG GCTGACAGTC AATTCCAGGC
 15 CCTAGGACTT TGGGGGGAAA TTAGGAGCAT CCAACTA GAATTCCTG GCCAGGACCC CTGCCAGGGC
 ACTGACCCAG CCTTCCCTGG GGCAGTGGAG ACCTCGGTCC TGCAGAGCTG CATAGCAGAG GCCAAGTTGC
 TGGTGGATGC TGCCCTACAAT TGGACCCAGA AGAGCATCAA GCAGCGGCTT CGCAGCGGTT CAGCCAGCCC
 CATGGACCTC CTGTCTTACT TCAAAACAACC GGTAGCAGCC ACCAGGACAG TTGTTCGGGC CGCAGATTAT
 ATGTGCTAGG CTGTGGGGCT GCTTGAAGAG AAGTTACAAC CCCAGCGGTC CGGACCCCTC ATTGTCACTG
 20 ATGTGCTAAC AGAAACACAG CTGCGGCTGC TGTCCCAGGC CAGTGGCTGT GCTCTCCGG ACCAGCCGA
 GCGCTGCAGC GACCAAGTACC GCACCATCAC TGGACGGTGC AACAACAAGA GGAGACCCCT GCTAGGGGCC
 TCCAACCAGG CTCTGGCTCG CTGGCTGCC GCGAGTATG AGGATGGGCT GTCGCTCCCC TTCGGCTGGA
 CCCCCAGCAG GAGGCGCAAT GGCTTCTTC TCCCTCTTGT CCGGGCTGTC TCCAACCAGA TTGTGCGCTT
 CCCCATGAG AGACTTGACCT CCGACCGTGG CCGAGCCCTC ATGTTTCATGC AGTGGGGCCA GTTCATTGAC
 25 CATGACCTGG ACTTCTCCCC GGAGTCCCCG GCCAGAGTGG CCTTCACTGC AGGCGTTGAC TGTGAGAGGA
 CCTGCGCCCA GCTGCCCCC TGCTTTCCCA TCAAGATCCC ACCCAATGAC CCCCAGTCCG CAACCAGATC
 TGACTGCATC CCTTCTTCTC GCTCGGCACC CTCATGCCCC CAAAACAAGA ACAGAGTCCG CAACCAGATC
 AACGCGTCA CCTCTTTGT GGACGCCAGC ATGGTGTATG GCAGTGAGGT CTCCCTCTCG CTGCGGCTCC
 30 GCAACCGGAC CAATACCTG GGGCTGCTGG CCATCAACCA GCGCTTTCAA GACAACGGCC GGGCCCTGCT
 GCCCTTCGAC AACCTGCACG ATGACCCCTG TCTCTCACC AACCGCTCGG CGCGCATCCC CTGCTTCTG
 GCAGGTGACA CCCGATCAAC GGAAACCCCC AAAGTGGCAG CCATGCACAC CCTCTTTATG CGAGAGCACA
 ACCGGCTGGC CACCGAGCTG AGACGCCTGA ATCCCCGTG GAATGGAGAC AAAGTGTACA ATGAGGCTCG
 GAAGATCATG GGGGCCATGG TCCAGATCAT CACCTACCGA GACTTTCTGC CCCTGGTTCT GGGCAAGGCC
 35 CCGGCCAGGA GAAACCTGGG GCACTACAGG GGGTACTGCT CCAATGTGGA CCCACGGGTG GCCAATGTCT
 TCACCTGTC CTTCGCTT TGCCACACAA TGCTCCAGCC CTTCATGTTT CGTTGGACA GTCAGTACCG
 GGCCTCCGCA CCCCACTCGC ATGTCCCACT TAGTCTGCC TTCTTTGCCA GCTGGCGGAT CGTGTATGAA
 GGGGGCATCG ACCCTCATCT CCGGGGCCTC ATGGCCACCC CTGCCAAGCT GAACCGTCAG GATGCCATGT
 TAGTGGATGA GCTCGGGGAC CGGCTGTTTC GGCAAGTGAG GAGGATTGGG CTGGACCTGG CAGCTCTCAA
 40 CATGCAACGA AGCGGGACC ACGGCCTTCC AGGGTACAAT GCTTGGAGGC GCTTCTGTGG GCTCTCCAG
 CCCCAGGAAT TGGCACAGCT TAGCCGGGTG CTGAAAAACC AGGACTTGGC AAGGAAGTTC CTGAATTTGT
 ATGGAACACC TGACAACATT GACATCTGGA TTGGGGCCAT CGCTGAGCCT CTTTGGCCGG GGGCTCGAGT
 GGGGCCTCTT GTGCTTGTG TGTTTCAGAA CCAGTTCAGA AGAGCCGAGA CGGAGACAGG TTCTGGTGGC
 45 AGAACGAGGT GTTTCACCA AAGACAGCGC AAGGCCCTGA GCAGAATTTC CTGTCTCGG ATTATATGTG
 ACAATACCGG TATCACACG GTTTCAGGG ACATCTTCA AGCCAACATC TACCCTCGGG GCTTTGTGAA
 CTGCAGCCGT ATCCACAGGT TGAACCTATC AGCCTGGCGA GGGACATGAG GCTTCTGCAG GAGTCTATCC
 CAAGTCTCCA ACTTTTGAG ACAAGGGGAA GGGGAGGACC ATGAGGCTGC CTTGTCTCCC TGGAGCAAGT
 GCAGGCTCGT GACGCTTCTG CTGGCTACAG CTCAGAGCTG GGTTCGCCAG CCAGGAGTGA AGGCTGGGGG
 50 CTCTATCAG CAATGGACCT TCCGCTTGG GAGCCTCTA GGTATTAGGC TATGAATCAG CGCCACGTGC
 AAAGGCTTGG GAGGCAAGCC ATGTGTTCTT GCACCCAGG CAAGAAAAGT CAGCTGGAGG GTTTACAGCA
 CTTTCTACTG TTTCCAGCC CTCCCTCCCC TCCCTACCA TGAATAAGAG ACCACTCGGT CCTAGCCTCC
 AGACACCCCA CAATACTCCT CTGAGCCTGA GGCCAGGCAG CATGCTCTGC TTCTACCAAT AAAGCACTGC
 CGGAATTC-3' (FRAG. NO: 1726) (SEQ. ID NO: 3008)
 5'-CACCCTCCT GTACGCCAAC AAATATCCAT TGAGCGACAC CTGTGTCCCA GGTGCTGCTC TGGGCCCTGG
 55 GAGAAGTGCA TCAGTGGGCT TGGTAGTAGA GGGTAGGGAT GGAGTGAAGG GTAGGCAGGA AGAATGTCCC
 CAGGCTGGTA GGAGGTGGGG TGGGGGGTTT CAGTCTCAA ACTCCCATGA AAACAGAGA GAAGTTTCAG
 AACTCCACCC AAGAGGCTGG GTTCTAGGG CCCAGAGCTG CCTCCCCCA CCTAGAATG GGCTATAAAA
 GTCCCTTCCC AGCTACGTCC AGAGAAGAGC TGGAGGAAGT GAGAGGTCCG CTGGGGGTCC TCAAAGTGAG
 AGGGGAGCAG AGGATCTTCC CGTGCAGGCT CTGGATGTCA CTCACTTCCC AGCTGGTGAA GCCTCGCTGC
 AGAGATGCAT GTGCTCCAG CCCTGCAGG GGTCTGGCC ACTCTGTCC TCGCCACGCC CTGTGAGGGC
 60 ACTGACCCAG GTAAGTAGTC CCTAGACAGG CAAGGAGGAG GGAGGGGAAA TGGAAGGGGA AGCACTTGGG
 TCTTGGAGGG GGTCTGTGG CTTGTGAAC CCTGAGTCCC CATCTCTTG AACAGCCTCC CCTGGGGCAG
 TGGAGACCTC GGTCTGCGA GACTGCATAG CAGAGGCCAA GTTGCTGGTG GATGCTGCCT ACAATTGGAC

004070162964560

CCAGAAGAGG TGGACTTGGG TCTGGGGGCT GCATGGGCCT GGGAGGATCA GT-3' (FRAG. NO:)(SEQ. ID NO:2483)

5'-TAATACCTTG TGGGGTCAGG GAGCCCATGT CCCGTGCTGA TGTTATTTC CCACCAGGTC CGGGCTGTCT
 CCAACCAGAT TGTGCGCTTC CCCAATGAGA GACTGACCTC CGACCGTGGC CGAGCCCTCA TGTTTCATGCA
 5 GTGGGGCCAG TTCAATTGACC ATGACCTGGA CTTCTCCCCG GAGTCCCCGG CCAGAGTGGC CTTCACTGCA
 GCGCTTGACT GTGAAGGAGC CTGCGCCAG CTGCCCCCT GCTTTCCCAT CAAGGTACCT ACCCTCAGCC
 AATCTCCCAT GCCCTTGTGT GGCCTCCCC AAAGGCAAGG TGCTGGGGGT GGGGATCTGG AAGACTGGAG
 CACCATCCTT AAGCAGCTGC CTGTGGAGCT AGGGTATGAG ACAGAGACAC AAG-3' (FRAG.NO:)(SEQ.ID NO:2484)

10 5'-CACTGTCTCC TCCTCCATCT CAGATCCCAC CCAATGACCC CCGCATCAAG AACCAGCGTG ACTGCATCCC
 TTTCTTCCGC TCGGCACCCT CATGCCCCA AAACAAGAAC AGAGTCCGCA ACCAGATCAA CGCGCTCACC
 TCCTTTGTGG ACGCAGCAT GGTGTATGGC AGTGAGGTCT CCTCTCGCT GCGGCTCCGC AACCAGACCA
 ACTACCTGGG GCTGCTGGCC ATCAACCAGC GCTTTCAAGA CAACGGCCGG GCCCTGCTGC CTTTCGACAA
 CCTGCACGAT GACCTCTGTC TCCTACCAA CCGCTCGGCG CGCATCCCCT GCTTCTGGC AGGTGAGACA
 15 GGGAGGAAGG TGGTGTCTTC CCAGGAAACA GCCATCCCTG GGGTCCCAAC TGGGAAGCAA TGGTGGGATG
 TGGTGAAGGT ACATGGTTTG GGACCTCAGT ATTAGGCACA CCATAAGCAT GGATCTGTGC AC-3'
 (FRAG.NO:)(SEQ.ID NO:2485)

5'-TGAAGAGATG GAGGTCCAGT GAGGGCCAGG AGTTTGGCCC ACCCGTCTC TCCCATCCCC AGCCCTGGGT
 CTACCCTGGT AGAAGACAT TTCTCTGGGA AAGGCTGCAG TAAATCTGAG CTGCGGTTT TCAAGGTGAC
 20 ACCGATCAA CGGAACCCC CAAACTGGCA GCCATGCACA CCTCTTTAT GCGAGAGCAC AACCAGCTGG
 CCACCAGCT GAGCGCCTG AATCCCCGGT GGAATGGAGA CAACTGTAC AATGAGGCTC GGAAGATCAT
 GGGGGCCATG GTCCAGGTAA GGAGCTCTGC ATCCAGCAT CCCC-3' (FRAG.NO:)(SEQ.ID NO:2486)

5'-CTTTGTATCT CCACCCACCA ATAGTAAATT AATGTTGTCA CATTGACGT GATGACAATA AAGAATATGT
 CTGAGCCACC CTTGAAAAG GCAAGGGTAT GGGTGAGTAG CCTCTGGGA ATGTTCTCC TGTTCTCCCT
 25 TCCAGATCAT CACCTACCGA GACTTTCTGC CCCTGGTTCT GGGCAAGGCC CGGGCCAGGA GAACCTGGG
 GCACTACAGG GGGTACTGCT CCAATGTGGA CCCACGGGTG GCCAATGTCT TCACCCTGGC CTTCCGCTTT
 GGCCACACAA TGCACAGCC CTTATGTTT CGCTTGACA GTCAGTACCG GGCCTCCGCA CCCAACTCGC
 ATGTCCCACT TAGCTCTGCC TTCTTGCCA GCTGGCGGAT CGTGATGAA GGTGACCAGG TTTCCAGGG
 GGCAAATGGG GGTGAGGGTG GGGAGCATGC CCTCCCCTAG GTGG-3' (FRAG.NO:)(SEQ.ID NO:2487)

30 5'-TCCAGCTGCT TCATGTCTCT CCAGAACTCT GTTCTCTGAC AAACGTTACT AACATACCCG ACTGGCTTGT
 CCAGCTCTGG GCTAGCTTGG CATCATGTGA TAACCCAAGT AGCTTCCAG AGGCTGGTCC AATCTGTGCT
 GCTCACATTC CCTCCACCA GGGGGCATCG ACCCATCCT CCGGGGCCCTC ATGGCCACCC CTGCCAAGCT
 GAACCGTCAG GATGCCATGT TAGTGGATGA GCTCCGGGAC CGGCTGTTT GCAAGTGAG GAGGATTGGG
 CTGGACCTGG CAGCTCTCAA CATGCAACGA AGCCGGGACC ACGGCCTTCC AGGTGAGGGG GCTGTCCACC
 35 TCTTCTCCA GCTTTCTCG GGCCAGGCTG CTCAAGGGT TCTGGGAAGA CCTGGTACC-3' (FRAG.NO:)(SEQ.ID NO:2488)

5'-CGACTGCCTG TAGGTTCTG GTGGCAGAAA CGAGGTGTTT TCACCAAAAG ACAGCGCAAG GCCCTGAGCA
 GAATTTCTT GTCTCGAATT ATATGTGACA ATACCGGTAT CACCACGGTT TCAAGGGACA TCTTCAGAGC
 CAACATCTAC CCTCGGGGCT TTGTGAACTG CAGCCGTATC CCCAGGTTGA ACCTATCAGC CTGGCAGGG
 40 ACATGAGGCT TCTGAGGTA AGGGGAGGCC ACCTCCAGCA CCCTGGGCTG GTTAAGCCTC ACATCTTCC
 CTGGATGGAT GGCAGAGTCC TCTTAGGTCT CTAAGCAGAG AAAACAGAAC TTGTACTAG GTACTCTTTC
 CAAGTGGCTT CCAATGTGC TAGTTCTGG GCTGACAGTC AATTCCAGGC CCTAGGACTT TGGGGGAAAA
 TTAGGAGCAT CCAACTA-3' (FRAG.NO:)(SEQ.ID NO:2489)

5'-GAATTCCTG GCAGGACCC CTGCCAGGC ACTGACCCAG CCTCCCCTGG GGCAGTGGAG ACCTCGGTCC
 45 TGCGAGACTG CATAGCAGAG GCCAAGTTGC TGGTGGATGC TGCTACAAT TGGACCCAGA AGAGCATCAA
 GCAGCGGCTT CGCAGCGGT CAGCCAGCCC CATGGACCTC CTGTCTACT TCAAACAACC GGTAGCAGCC
 ACCAGGACAG TTGTCGGGCG CAGCAGATTAT ATGCATGTGG CTTTGGGGCT GCTGAAGAG AAGTTACAAC
 CCCAGCGGTC CGGACCTTTC ATTGTCACTG ATGTGTAAC AGAACACAG CTGCGGCTGC TGTCCAGGC
 CAGTGGCTGT GCTCTCCGG ACCAGGCCG GCGCTGCAG GACAAGTACC GCACCATCA TGGACGGTGC
 50 AACAAACAAGA GGAJACCCTT GCTAGGGGCC TCCAACCAGG CTCTGGCTCG CTGGCTGCC CCGAGTATG
 AGGATGGGCT GTCGCTCCCC TTCGGCTGGA CCCCAGCAG GAGGCGCAAT GGCTTCTTC TCCCTCTTGT
 CCGGGCTGTC TCCAACCAGA TTGTGCGCTT CCCAATGAG AGACTGACCT CCGACCGTGG CCGAGCCCTC
 ATGTTTCATG AGTGGGCA GTTCATTGAC CATGACCTGG ACTTCTCCC GGAGTCCCCG GCCAGAGTGG
 CTTCACTGC AGGCGTTGAC TGTGAGAGGA CTGCGCCCA GCTGCCCCC TGCTTTCCA TCAAGATCCC
 55 ACCCAATGAC CCCCGCATCA AGAACAGCG TGAATGCATC CTTTCTTCC GCTCGGCACC CTCATGCCCC
 CAAAACAAGA ACAJAGTCCG CAACCAGATC AACGCGCTCA CTCCTTTGT GGACGCCAG ATGGTGTATG
 GCAGTGAAGT CTCCTCTCG CTGCGGCTCC GCAACCGGAC CAACTACCTG GGGCTGTGG CCATCAACCA
 GCGCTTTCAA GACACGGCC GGGCCCTGCT GCCCTCGAC AACCTGCACG ATGACCCCTG TCTCTCAAC
 AACCCTCGG CGCGCATCCC CTGCTTCTG GCAGGTGACA CCGATCAAC GGAAACCCCC AAAGTGGCAG
 60 CCATGCACAC CCTCTTTATG CGAGAGCACA ACCGGCTGGC CACCGAGCTG AGACGCCTGA ATCCCCGGTG
 GAATGGAGAC AAACTGTACA ATGAGGCTCG GAAGATCATG GGGGCCATGG TCCAGATCAT CACCTACCGA
 GACTTTCTGC CCTTGGTTCT GGGCAAGGCC CCGGCCAGGA GAACCTGGG GCACTACAGG GGGTACTGCT

004040-040360

CCAATGTGGA CCCACGGGTG GCCAATGTCT TCACCCTGGC CTTCGCTTT GGCCACACAA TGCTCCAGCC
 CTTCTATGTT CGCTTGGACA GTCAGTACCG GGCCTCCGCA CCCAACTCGC ATGTCCCACT TAGCTCTGCC
 TTCTTTGCCA GCTGGCGGAT CGTGTATGAA GGGGGCATCG ACCCATCCT CCGGGGCTC ATGGCCACCC
 CTGCCAAGCT GAACCGTCAG GATGCCATGT TAGTGGATGA GTCCTGGGAC CGGCTGTTTC GGCAAGTGAG
 5 GAGGATTGGG CTGGACCTGG CAGCTCTCAA CATGCAACGA AGCCGGGACC ACGGCCTTCC AGGGTACAAT
 GCTTGGAGGC GCTTCTGTGG GCTCTCCAG CCCCAGGAAT TGGCACAGCT TAGCCGGGTG CTGAAAAACC
 AGGACTTGCC AAGGAAGTTC CTGAATTGT ATGGAACACC TGACAACATT GACATCTGGA TTGGGGCCAT
 CGCTGAGCCT CTTTGGCCGG GGGCTCGAGT GGGGCCTCTT CTGGCTTGTC TGTTCGAGAA CCAGTTCAGA
 AGAGCCGAGA CGGAGACAGG TTCTGGTGGC AGAACGAGGT GTTTTACCA AAGACAGCGC AAGGCCCTGA
 10 GCAGAATTTC CTTCTCTCGA ATTATATGTG ACAATACCGG TATCACCACG GTTCAAGGG ACATCTTCAG
 AGCCAACATC TACCTCGGG GCTTTGTGAA CTGCAGCCGT ATCCCCAGGT TGAACCTATC AGCCTGGCGA
 GGGACATGAG GCTTCTGCAG GAGTCTATCC CAAGTCTCCA ACTTTTGGAG ACAAGGGGAA GGGGAGGACC
 ATGAGGCTGC CTTCTCTCCC TGGAGCAAGT GCAGGCTCGT GACGCTTCTG CTGGCTACAG CTCAGAGCTG
 GGTTCCCCAG CCACGAGTGA AGGCTGGGGG CTCCTATCAG CAATGGACCT TCCGCCTTGG GAGCCTCTTA
 15 GGTATTAGGC TATCAATCAG CGCCACGTGC AAAGGCTTGG GAGCCAAGCC ATGTGGTCTT GCACCCAGG
 CAAGAAAAGT CAGCTGGAGG GTTACAGCA CTTTCTACTG TTTCCAGCC CTCCCTCCC TCCCTACCA
 TGACTAAGAG ACCACTCGGT CCTAGCTCC AGACACCCA CAATACTCCT CTGAGCCTGA GGCCAGGCAG
 CATGCTCTGC TTCTACCAAT AAAGCACTGC CGGAATTC-3' (FRAG. NO:) (SEQ. ID no:2490)
 5'-TC GGC CTG GTC CCG G-3' (FRAG. NO: 1727) (SEQ. ID NO:1740)
 20 5'-TGG GGG TTT CCC TTG-3' (FRAG. NO: 1728) (SEQ. ID NO: 1741)
 5'-TG GTC CCG GBG GGC -3' (FRAG. NO: 1729) (SEQ. ID NO: 1742)
 5'-GCG CTC GGC CTG GTC CCG G-3' (FRAG. NO:1053) (SEQ. ID NO:1061)
 5'-GGG TCT CCT CTT GTT GTT GC-3' (FRAG. NO:1054) (SEQ. ID NO:1062)
 5'-TTG CGC CTC CTG CTG GGG GT CC-3' (FRAG. NO:1055) (SEQ. ID NO:1063)
 25 5'-CTC TGT TCT TGT TTT GGG GGC-3' (FRAG. NO:1056) (SEQ. ID NO:1064)
 5'-GGG CCC GGC CGT TGT CTT G-3' (FRAG. NO:1057) (SEQ. ID NO:1065)
 5'-GTT TGG GGG TTT CCG TTG-3' (FRAG. NO:1058) (SEQ. ID NO:1066)
 5'-GGG TTC TCC TGG CCC GGG CCT TGC CC-3' (FRAG. NO:1059) (SEQ. ID NO:1067)
 5'-GGC CGT GGT CCC GGC TTC GTT GC-3' (FRAG. NO:1060) (SEQ. ID NO:1068)
 30 5'-CCT GTC TCC GTC GCG GCT CTT CTG-3' (FRAG. NO:1061) (SEQ. ID NO:1069)
 5'-GGG CCT TGC GCT GTC TTT GGT G-3' (FRAG. NO:1062) (SEQ. ID NO:1070)
 5'-GCB CCG TCC BGT GBT GGT GCG GTB CTT GTC GCT GCB GCG CTC GGC CTG GTC CCG GBG BGC -3' (FRAG.
 NO:1063) (SEQ. ID NO:1071)

Human Intercellular Adhesion Molecule-1 (ICAM-1)

35 Nucleic Acid and Antisense Oligonucleotide Fragments

5'-GCG CGG GCC GGG GGC TGC TGG G GGT TGG CCC GGG GTG CCC C GCC GCT GGG TGC CCT CGT CCT CTG
 CGG TC GTG TCT CCG GGC TCT GGT TCC CC GCT GCG CCC GTT GTC CTC TGG GGT GGC CTT C GCT CCC GGG
 TCT GGT TCT TGT GTT TGG GGG TCC CTT TTT GGG CCT GTT GT GGC GTG GCT TGT GTG TTC GGT TTC TGC CCT
 GTC CTC CGG CGT CCG CGG BGC CTC CCC GGG GCB GGB TGB CTT TTG BGG GGG BCB CBG BTG TCT GGG CBT
 40 TGC CBG GTC CTG GGB BCB GBG CCC CGB GCB GGB CCB GGB GTG CGG GCB GCG CGG GCC GGG GGC TGC TGG
 GBG CCB TBG CGB GGC TGB G-3' (FRAG. NO: 1730) (SEQ. ID NO: 1743)
 5'-GGG GGC TGC TGG G-3' (FRAG. NO: 1731) (SEQ. ID NO:1744)
 5'-T GTC CTC CGG CCT CCC-3' (FRAG. NO:1732) (SEQ. ID NO:1745)
 5'-G CCB TBG CGB GGC TGB G-3' (FRAG. NO: 1733) (SEQ. ID NO: 1746)
 45 5'-CTC TGG GGT GGC CTT C-3' (FRAG. NO:1734) (SEQ. ID NO:1747)
 5'-GCG CGG GCC GGG GGC TGC TGG G-3' (FRAG. NO:1064) (SEQ. ID NO:1072)
 5'-GGT TGG CCC GGG GTG CCC C-3' (FRAG. NO:1065) (SEQ. ID NO:1073)
 5'-GCC GCT GGG TGC CCT CGT CCT CTG CGG TC-3' (FRAG. NO:1066) (SEQ. ID NO:1074)
 5'-GTG TCT CCT GGC TCT GGT TCC CC-3' (FRAG. NO:1067) (SEQ. ID NO:1075)
 50 5'-GCT GCG CCC GTT GTC CTC TGG GGT GGC CTT C-3' (FRAG. NO:1068) (SEQ. ID NO:1076)
 5'-GCT CCC GGG TCT GGT TCT TGT GT-3' (FRAG. NO:1069) (SEQ. ID NO:1077)
 5'-TGG GGG TCC CTT TTT GGG CCT GTT GT-3' (FRAG. NO:1070) (SEQ. ID NO:1078)
 5'-GGC GTG GCT TGT GTG TTC GGT TTC-3' (FRAG. NO:1071) (SEQ. ID NO:1079)
 5'-TGC CCT GTC CTC CGG CGT CCC-3' (FRAG. NO:1072) (SEQ. ID NO:1080)
 55 5'-CGG BGC CTC CCG GGG GCB GGB TGB CTT TTG BGG GGG BCB CBG BTG TCT GGG CBT TGC CBG GTC CTG
 GGB BCB GBG CCC CGB GCB GGB CCB GGB GTG CGG GCB GCG CGG GCC GGG GGC TGC TGG GBG CCB TBG CGB
 GGC TGB G-3' (FRAG. NO:1073) (SEQ. ID NO:1081)

Human Vascular Cell Adhesion Molecule 1 (VCAM-1)

60 Nucleic Acid and Oligonucleotide Fragments

5'-CCT CTT TTC TGT TTT TCC C CTC TGC CTT TGT TTG GGT TCG CTT CCT TTC TGC TTC TTC C CTG TGT CTC

CTG TCT CCG CTT TTT TCT TC GTC TTT GTT GTT TTC TCT TCC TTG CTG BGC BBG BTB TCT BGB TTC TGG GGT
GGT CTC GBT TTT BHB GCT TGB GBB GCT GCB BBC BTT BTC CBB BGT BTB TTT GBG GCT CCB BGG BTC BCG
BCC BTC TTC CCB GCC BTT TTB BGT TGC CGT-3' (FRAG.NO:1735)(SEQ.ID NO:1748)

5'-C TGT CGT-3' (FRAG. NO:1736) (SEQ. ID NO:1749)

5 5'-TGC TTC TTC C-3' (FRAG. NO:1737) (SEQ. ID NO:1750)

HSV CAM1AS1: 5'-CCT CTT TTC TGT TTT TCC C-3' (FRAG. NO:1074) (SEQ. ID NO:1082)

HSV CAM1AS2: 5'-CTC TGC CTT TGT TTG GGT TCG-3' (FRAG. NO:1075) (SEQ. ID NO:1083)

HSV CAM1AS3: 5'-CTT CCT TTC TGC TTC TTC C-3' (FRAG. NO:1076) (SEQ. ID NO:1084)

HSV CAM1AS4: 5'-CTG TGT CTC CTG TCT CCG CTT TTT TCT TC-3' (FRAG. NO:1077) (SEQ. ID NO:1085)

10 HSV CAM1AS5: 5'-GTC TTT GTT GTT TTC TCT TCC TTG-3' (FRAG. NO:1078) (SEQ. ID NO:1086)

CTG BGC BBG BTB TCT BGB TTC TGG GGT GGT CTC GBT TTT BBBB GCT TGB GBB GCT GCB BBC BTT BTC CBB
BGT BTB TTT GBG GCT CCB BGG BTC BCG BCC BTC TTC CCB GGC BTT TTB BGT TGC TGT CGT (FRAG.

NO:1079)(SEQ. ID NO:1087)

Human Endothelial Leukocyte Adhesion Molecule(ELAM-1)

15 Nucleic Acid and Antisense Oligonucleotide Fragments

5'-BBG TGB GBG CTG BGB BBT BCT GTG BBG CBB TCB TGB CTT CBB GBG TTC TTT TCB CCC GTT CTT GGC TTC
TTC TGT C CGT TGG CTT CTC GTT GTC CC TGT GGG CTT CTC GTT GTC CC CCC TTC GGG GGC TGG TGG GGC
CGT CCT TGC CTG CTG G GTT CTT GGC TTC TTC TGT CCG T TGG CTT CTC GTT GTC CC TGT GGG CTT CTC
GTT GTC CC CCC TTC GGG GGC TGG TGG GGC CGT CCT TGC CTG CTG G CCTGAGACAG AGGCAGCAGT
20 GATACCCACC TGAGAGATCC TGTGTTTGAA CAACTGCTTC CAAAACGGA AAGTATTTC AAGCCTAAACC
TTTGGGTGAA AAGAACTCTT GAAGTCATGA TTGCTTCACA GTTCTCTCA GCTCTCACTT TGGTGCTTCT
CATTAAAGAG AGTGGAGCCT GGTCTTACAA CACCTCCACG GAAGCTATGA CTTATGATGA GGCCAGTGC
TATTGTGACG AAACGTACAC ACACCTGGTT GCAATTCAAA ACAAAGAAGA GATTGAGTAC CTAAACTCCA
TATTGAGCTA TTCACCAAGT TATTACTGGA TTGGAATCAG AAAAGTCAAC AATGTGTGGG TCTGGGTAGG
25 AACCCAGAAA CCTCTGACAG AAGAAGCCAA GAAGTGGGCT CCAGGTGAAC CCAACAATAG GCAAAAAGAT
GAGGACTGCG TGGAGATCTA CATCAAGAGA GAAAAAGATG TGGGCATGTG GAATGATGAG AGGTGCAGCA
AGAAGAAGCT TGCTCTATGC TACACAGCTG CCTGTACCAA TACATCCTGC AGTGGCCACG GTGAATGTGT
AGAGACCATC AATATTACCA CTTGCAAGTG TGACCCTGGC TTCAGTGGAC TCAAGTGTGA GCAAAATTGTG
AACTGTACAG CCTTGAATC CCCTGAGCAT GGAAGCCTGG TTTGAGTCA CCCACTGGGA AACTTCAGCT
30 ACAATCTTC CTGCTCTATC AGCTGTGATA GGGGTTACCT GCCAAGCAGC ATGGAGACCA TGCAGTGTAT
GTCTCTGGA GAAAGGAGTG CTCCTATTCC AGCCTGCAAT GTGGTTGAGT GTGATGCTGT GACAAATCCA
GCCAATGGGT TCGTGGAAATG TTTCCAAAAC CCTGGAAGCT TCCCATGGAA CACAACCTGT ACATTTGACT
GTGAAGAAGG ATTGAAGCTA ATGGGAGCCC AGAGCCTTCA GTGTACCTCA TCTGGGAATT GGGACAACGA
GAAGCCAACG TGTAAAGCTG TGACATGCAG GGCCGTCCGC CAGCCTCAGA ATGGCTCTGT GAGGTGCAGC
35 CATTCCCCTG CTGCAGAGTT CACCTCAAAA TCATCCTGCA ACTTCACCTG TGAGGAAGGC TTCATGTTGC
AGGGACCAGC CCAGGTTGAA TGCACCACTC AAGGGCAGTG GACACAGCAA ATCCCAGTT GTGAAGCTTT
CCAGTGCACA GCCTGTGTTA ACCCGAGCG AGGCTACATG AATTGTCTTC CTAGTGCTTC TGGCAGTTTC
CGTTATGGGT CCAGCTGTGA GTTCTCTGT GAGCAGGGTT TTGTGTTGAA GGGATCCAAA AGGCTCCAAT
GTGGCCCCAC AGGCGAGTGG GACAACGAGA AGCCCACTG TGAAGCTGTG AGATGCGATG CTGTCCACCA
40 GCCCCGAAG GGTGTGTTGA GGTGTGCTCA TTCCCTATT GGAGAATTCA CCTACAAGTC CTCTTGTCCT
TTCAGCTGTG AGGAGGGATT TGAATTATAT GGATCAACTC AACTTGAGTG CACATCTCAG GGACAATGGA
CAGAAGAGGT TCTCTCTGCA CAAGTGGTAA AATGTTCAAG CCTGGCAGTT CCGGGAAGA TCAACATGAG
CTGCAGTGGG GAGCCCGTGT TTGGCACTGT GTGCAAGTTC GCCTGTCTG AAGGATGGAC GCTCAATGGC
TCTGCAGCTC GGACATGTGG AGCCACAGGA CACTGGTCTG GCCTGTCTAC TACCTGTGAA GCTCCCACTG
45 AGTCCAACAT TCCCTTGGTA GCTGGACTTT CTGCTGTGTT ACTCTCCCTC CTGACATTAG CACCATTCT
CCTCTGGCTT CGGAAATGCT TACGGAAAGC AAAGAAATTT GTTCTTGCCA GCAGTGCCA AAGCCTTGAA
TCAGACGGAA GCTACCAAAA GCCTTCTTAC ATCCTTTAAG TTCAAAAAGAA TCAGAAAACAG GTGCATCTGG
GGAAC TAGAG GGAATACACTG AAGTTAACAG AGACAGATAA CTCTCTCGG GTCTCTGGCC CTCTTGCTCT
ACTATGCCAG ATGCTTTTAT GGCTGAAACC GCAACACCCA TCACCACTTC AATAGATCAA AGTCCAGCAG
50 GCAAGGACGG CCTCAACTG AAAAGACTCA GTGTTCCCTT TCCTACTCTC AGGATCAAGA AAGTGTGGC
TAATGAAGGG AAAGGATATT TTCTTCCAAG CAAAGGTGAA GAGACCAAGA CTCTGAAATC TCAGAATTCC
TTTTCTAACT CTCCCTTGCT CGCTGTAAAA TCTTGGCACA GAAACACAAT ATTTTGTGGC TTTCTTTCTT
TTGCCCTTCA CAGTGTTCG ACAGCTGATT ACACAGTTGC TGTCATAAGA ATGAATAATA ATTATCCAGA
GTTTAGAGGA AAAAATGAC TAAAAATATT ATAAGTAAA AAAATGACAG ATGTTGAATG CCCACAGGCA
55 AATCATGGGA GGGTGTGTTAA TGGTGCAAAAT CCACTAGTAAT GCTCTGTGCG AGGGTTACTA TGCACAATT
AATCACTTTC ATCCCTATGG GATTCACTGC TTCTTAAAGA GTTCTTAAGG ATTGTGATAT TTTTACTTGC
ATTGAATATA TTAATATCTT CCATACTTCT TCATTCAATA CAAGTGTGGT AGGGACTTAA AAAACTTGTA
AATGCTGTCA ACTATGATAT GGTAAAAGTT ACTTATTCTA GATTACCCCT TCATTGTTTA TTAACAAATT
ATGTTACATC TGTTTAAAT TTATTTCAAA AAGGGAACT ATTGTCCCT AGCAAGGCAT GATGTTAACC
60 AGAATAAAGT TCTGAGTGT TTTACTACAG TTGTTTTTG AAAACATGGT AGAATTGGAG AGTAAAAACT
GAATGGAAGG TTTGTATATT GTCAGATATT TTTTCAGAAA TATGTGGTTT CCACGATGAA AAACCTCCAT

5 GAGGCCAAAC GTT TGAAC T AATAAAAGCA TAAATGCAAA CACACAAAGG TATAATTTTA TGAATGTCTT
 TGTTGGAAAA GAA ACAGAA AGATGGATGT GCTTGCATT CCTACAAAGA TGTTTGTGAG ATGTGATATG
 TAAACATAAT TCTGTATAT TATGGAAGAT TTTAAATTCA CAATAGAAAC TCACCATGTA AAAGAGTCAT
 CTGGTAGATT TTTACGAAT GAAGATGTCT AATAGTTATT CCCTATTTGT TTTCTTCTGT ATGTTAGGGT
 10 GCTCTGGAAG AGAGGAATGC CTGTGTGAGC AAGCATTTAT GTTATTTTAT AAGCAGATTT AACAAATCCA
 AAGGAATCTC CAG TTTT CAG TTGATCACTG GCAATGAAAA ATTCTCAGTC AGTAATTGCC AAAGCTGCTC
 TAGCCTTGAG GAGTGTGAGA ATCAAACTC TCCTACACTT CCATTAACCTT AGCATGTGTT GAAAAA
 GTTTCAGAGA AGTCTGGCT GAACACTGGC AACGACAAAG CCAACAGTCA AAACAGAGAT GTGATAAGGA
 TCAGAACAGC AGAGGTTCTT TTAAGGGG AGAAAACTC TGGGAAATAA GAGAGAACAA CTACTGTGAT
 15 CAGGCTATGT ATGGAATACA GTGTTATTTT CTTTGAATTT GTTTAAGTGT TGTAAATATT TATGTAAACT
 GCATTAGAAA TTAGCTGTGT GAAATACCAG TTGTGTTTGT GTTTGAGTTT TATTGAGAA TTTAAATTAT
 AACTTAAAAAT ATTTATAAT TTTTAAAGTA TATATTTATT TAAGCTTATG TCAGACCTAT TTGACATAAC
 ACTATAAAGG TTGAATAA ATGTGCTTAT GTTT GATCAAAATT TTTACCTATT ATGCATTTGA TATATAAATA
 AGTATATAAA TGCAACACA GACACAGCAA TGATGGTGAA CAGTCTTCAT ACAATTATAT GGATGAATCT
 20 CATAAAATGC TGACTTAAAG AAATCAGACC AAAGAACATA TACTGAAAGA TTCTCTCTAT ATACAAAGTT
 CAAAAATAGG TGGACCAATT CATGGTGGTG TTAGAAATCA GAAGAGAGGC TACCTTTGTG GGGAGGGGAC
 AGTTTAATGC CCAC AAGCGG TAAATAAGGA ATCCTCTGGG GAGTGGTAAT GATCTGGATG CTGGCTACAG
 GATGTGTTGG TTGAAAAAT GCATTTTTTT ATATCTAGCT TTTTCCATGT GTATATTATA CTTCAAAGAA
 GTTCAGTTAA TAA TTTCTCA GTCACTGTA GAGTAGCTCA GTTAGCCCCA GCAAGCCTCT GGCTTAATCT
 25 TGTTTTACCT TAAGCCATCA GTCATTTACA AGTAGGAAAA TTCACAGGGA AAGTTAGAGT ATAAAATCCA
 GAATGAAGGT TTA CTGGGTA AGAGTCTCTC CATTTTCCAA AGCCCGTTTA TTTCTTGATT CCAGTTCTTA
 AGAAGTCTCA GCA TGTGTC TTTTTCATGT ATCTTACAAG AAGACAGCAT GTGCTTCTAA CACCTGATAC
 ATTGTATCTA CCAC CACTTG GTAAACAGAA AAGAACCACA TTTTCTTGT AGGAGAAATT TGGTGCCTAT
 TTCCTACCAG GCACCAATAA GTGGGACCAA TAGGTGGGAT TAAAGATACA GTAGAAAGTA TTTAAACTT
 30 GCCAGGGGGC AATAGTCTGA AAATAAGTAA ATTGGTGCTA TAGAATGGAA GTTACAGGCT TCTTTCTTTT
 TTCCACAAG ATC GCTCCT TGAGCCCTA GAGACTTTTC TGTCGTGTTAC TGTTTCTTCA TTCCTCATCT
 GCAGAGCCAG CCCGAGAAG TGCAGACCAA AGCCAGGGAA GGCTCTGCAA AGATGTACAA ATGGAAGTCA
 CCTTAATAAC CTCTGACTGC TGGCATAAT ACATTTCACT CAAAAGAGGG GTTAAACAAT GGAACAGAAAT
 ACAGAGGCCA GAAATAATGC TGAACACTGA CAACCATCTG ATCTTTGACA AAATCCACAA AAACAAGCAA
 35 TGGAGAAAGG ACTCCCTATT CCATAATGGT GCTGGGATAA CTGTCTAGCT ATATACAGAA GATTGAACCT
 GGGCCCTTTC CTTACATCAT ATACAAAAAA TAACTCAAGA TGGAGTAAAG ACTTAAATCT AAAACCAAAC
 ACTATAAAAA CCCGGAAGA TAGCCTGGGA AATACCATTG TGGACATAGG ACCTGGCAAA GACTTCATGA
 CAAGACACCA AAAGCAATAG CAACAAAAAC CAAATTGACT AATGAAACTA ATGAAACTCT TTAGTTGTAC
 AACAGATAGT TTA CTGTAC AAAAAATAA ACTATCAACA GAGTAAACAA CCTACAGAAAT GGAAAAATTT
 40 TTTGCAAACT CTCATCTGA CAAAGTCTA ATATCCAGAA TCTATAAGGA ATTTAAACAA ATTTACAAGC
 AAAAAAATGA ATGATTAAA AAGTGGGCAA AGGACATGAA CAGATGCTTT TCAAAAATAAG ACATTCACAC
 ATCCAACAAC CATAGAAAA GATGTTTAA ATCACTAATC ATTAGAGGAA TACAAATCAA AAGCATAATA
 AGATAACCATC TAATACCAGT AGGAATGACT ACTATTAATA AGTCAGACAA TAACAGATGC TGGTGAAGGT
 TGTGGAGAAA AGGGAATGTT TATGCACTGC TAGTGGGAAT GTAAACTAGT TCAGCCATTG TGGAAGAGAG
 45 TGTGGTGATT CCTCAAAGAA TGTAAAAACCG AACTGCCTTT CAATCCAGCA ATCCCATTAT TGGATATACA
 CAAAAGGAA TAGAATTGT TTTACCGTAA AGGCGCATGC ATGCATATGT TCATTACAGC ACTATTTACG
 ATAGCAAGA CATGGAATCG TCTAAATGCC CATCAGTGGT AGACTAGCTA AAAAAAATAA AATGTGGTAC
 ATATACATCA CAGATAGTA TGCAGCCATA AAAATGAACA AGATCATCAT GTCCTTTGCA GCAACATGGA
 TGAGTTGGA GGCCATTATC CTAAGCAAAAT TAATGCAGGA ACAGAAAAGCC AAATACCACA TGTCTCATT
 50 TATAAGTGAC AGCTAAATAT TGAGTACACA TGGACACAAA GAAGGGAACA ATAGACATGG GACCTACTTG
 AGAATAGAGG GTGGGAGGAG GGTGAGGATC AAAAAGTACC CATAGGACAC TGTGCTTATT ACCTGGGTGA
 TGAAATAATT TGCACACCA ACCCCTGTGA CACACAATT ACCTATATAG AAAACCTGTG CATGTACCCC
 TGAACCTAAA AGT AATGGT GGGGGGGTGG GGTTAAGCTA CTTGTGGTAA TAAATCTGAG CATTATATT
 AAAATAAAAT ATTACCTCA TTAGAGTAAT TAACATTTAT TAAGCAAAGA GCCAAGTACC TTACACACAT
 55 GATGTTTAAAT CTC CAATGA TCTTTAATCT CATAACAACC GTCCATTGTA TGTACATATG TGGAAATTGA
 GCCTTGGAGA GAT AATGTC ATGGGGCATG CCATTTGACT AGAAACTGGA AGCATCAGGA TTTAAACTCA
 GTTCTGAATG GTTGTAGG CTTGTTTTT TCCACATTAT AGCATGGCCT GCCATGAAGA ACAGGTCCTT
 TCTGGTGTGTT GTCTGTGTTG GTTAAAGTGA AGCAAATATT TATTTAAATA TTCAAGATAT GCTGTTAAAT
 TTTTACTCAA AAA TTAGAGT ACAGTATGGA TCTTCTGAAG CCAAATAACT CTTATTCAAT GCTTAGTTGA
 60 GAAATTTTAT GGAGTAGTTC TCAATTTTTA TGTAGTTCCA CTGCAAAGGT AAGTCTTATG GAAAGATTCA
 CTGTAATTTT TTTTCTCAT TTGGACATCA GCTTTTTCTT TTCCTCAGAC CCGCTGAAAG ATAATTTTAA
 AAATAAAAAAC CTTGTTTTTA TATCAAGTGG GGACATTTT TCCAAATGAA AACCGTGTAT TCATTTTATA
 TGATAAAATC AATGTTATTA TTTTAAATC TTTGATTTAA AAATCATTAA AAATAAAATT TCAGATATTA
 CCTGAAATTC TACCATCCAG AGATAAATAG GTTAAAGAT TTGATATATA GACACACACA CATATATACA
 TATATATCAT CCTA AACTTC TTTGTATAAA TGTATATAAA GTTTTTAATA AAAACTAGGA GATTAATGCC
 CTTTGAATGA AAA AAATAC AATGTGTATG CTTTAAACATC TTGCCTTTAC TTTATAACAT TTATCACAGC
 AGTCATGAGA TAA GATTTA CATGTCATT GTTAGTAAGC TAATAGCTAA GTGCATGAAC TCTGGAGCTA

004040 52964560

Parameter	Value
α_1	0.0000
α_2	0.0000
α_3	0.0000
α_4	0.0000
α_5	0.0000
α_6	0.0000
α_7	0.0000
α_8	0.0000
α_9	0.0000
α_{10}	0.0000
α_{11}	0.0000
α_{12}	0.0000
α_{13}	0.0000
α_{14}	0.0000
α_{15}	0.0000
α_{16}	0.0000
α_{17}	0.0000
α_{18}	0.0000
α_{19}	0.0000
α_{20}	0.0000
α_{21}	0.0000
α_{22}	0.0000
α_{23}	0.0000
α_{24}	0.0000
α_{25}	0.0000
α_{26}	0.0000
α_{27}	0.0000
α_{28}	0.0000
α_{29}	0.0000
α_{30}	0.0000
α_{31}	0.0000
α_{32}	0.0000
α_{33}	0.0000
α_{34}	0.0000
α_{35}	0.0000
α_{36}	0.0000
α_{37}	0.0000
α_{38}	0.0000
α_{39}	0.0000
α_{40}	0.0000
α_{41}	0.0000
α_{42}	0.0000
α_{43}	0.0000
α_{44}	0.0000
α_{45}	0.0000
α_{46}	0.0000
α_{47}	0.0000
α_{48}	0.0000
α_{49}	0.0000
α_{50}	0.0000
α_{51}	0.0000
α_{52}	0.0000
α_{53}	0.0000
α_{54}	0.0000
α_{55}	0.0000
α_{56}	0.0000
α_{57}	0.0000
α_{58}	0.0000
α_{59}	0.0000
α_{60}	0.0000
α_{61}	0.0000
α_{62}	0.0000
α_{63}	0.0000
α_{64}	0.0000
α_{65}	0.0000
α_{66}	0.0000
α_{67}	0.0000
α_{68}	0.0000
α_{69}	0.0000
α_{70}	0.0000
α_{71}	0.0000
α_{72}	0.0000
α_{73}	0.0000
α_{74}	0.0000
α_{75}	0.0000
α_{76}	0.0000
α_{77}	0.0000
α_{78}	0.0000
α_{79}	0.0000
α_{80}	0.0000
α_{81}	0.0000
α_{82}	0.0000
α_{83}	0.0000
α_{84}	0.0000
α_{85}	0.0000
α_{86}	0.0000
α_{87}	0.0000
α_{88}	0.0000
α_{89}	0.0000
α_{90}	0.0000
α_{91}	0.0000
α_{92}	0.0000
α_{93}	0.0000
α_{94}	0.0000
α_{95}	0.0000
α_{96}	0.0000
α_{97}	0.0000
α_{98}	0.0000
α_{99}	0.0000
α_{100}	0.0000

ATGTGGAGGC ACA TAGTGAG TTGGTCCCCA GCCTTCAGTC CACCCACCTT CTCTTTACTA AATCACCTTT
 CACATACATG TATC AACACC CCAGCCTCCA AGTCCAAACC CTAAACAAAA TGGGACACCC TTGTGCATAC
 ACAGAGACAC AGCCATCCT CAGGAAAAACC TGGAAAAAGT CATACAAGTT CTGGAAGCAA GCTTGGGACG
 GTTTCAGTAG TGTG-TCTAT AAGGGAGGCC TCAGAAAGACA GGTTTTCTTA ATTCTGTGAA CTCTCCAC
 5 AGTAGAAAGG GTGCTGGAGG AGGGTCAGAG TGAGGACTTC TAAAGCATGG GTCCTGAGTA GGGGCCACTC
 TTGCCCAAGT CTAAGAAGGG TACTAGAATA GCACACTACT ACTAGATACT AGAACCCAGA TACAAGCACA
 GGTCTTCTGA AATTAATAAT AATAATAACT ATTACCATTA TTATACAGT AGCTGTCATT TATTTAGTGC
 TTATTATTG CCACTCACTG TTCTAAATTC TTTACATGTA TTATACAAC GCCATATAAC TGCCATATGA
 GGGATGTACC CTCATTGTCA CCATTTTACC GATGAGAAAA CTGGCATAAA ACGTTTAAAGT AACTTGTCCA
 10 AGTTACAGAG CTTA GTGAAG CCACAATGTT GCTCAATTTG CTCTCAAACT TCAAAGGGAT GGAAGGACA
 CCTAAGTCAT AGAGTCTTTA AGAATCAGAG CTAGAAGGA TCTTAGATGT TATCTAGTCA GCCTCCTCCC
 ATTACAGTCC AAGA/GAAGAT GGCCCTGAGT TACTTGTAGC TATTTTGTGA TGTGAATATG AAGTGAATAT
 ACATTCTACT GAACATAAAA GATATTTAAA GATATCGCTG GATATAGGAA CAGTGGTTTT AAATCTCTAG
 GCTTTAACTT TTCTCAGAAC AAGAAATCCT TTTTGGTTTT AATCTATATG CACATCTGTA TTTTCTCAA
 15 TTATCGGGTA GTA/AAATATA ACTTTTCTTC TGTAATATTT TTTAACTTTA ATGAGTGTTC CTCATAATAG
 AAAAGTTTGG AAA/CATTGC TATGGGTATA TACTTCTAA AGGGATAGTA ATTTCTCTAG AATATTCAAT
 TAATGCTCCA GAA/GTAATTA GCACAATTGT GCAAGTCTGT GCATCATCAA CTATACATTC TGCCTGTTTA
 CTCCAAATCC ACATGAAACT GATTATACAG TCAAAGGCGA GCCCAGTGGA GAGGCATTTT TGGAGACTTC
 CTGGTACATT GAGA/CAGGT CGGCCAGTCT CGGTAGGGT CTGGTCAAA ACTGCATTTT TGAAACTAAA
 20 CTCAGATTGC TTCTTTTAA GGGGTGAGAA CTGATTCAAA TCTACATTTT TAAAGCCCTT AGATGTGGGG
 CTTTTCCTAT TCCCAGTCTC CGCTATTGGT CTTTGTGAAT CCACAGGCAA TTTGGCCACA TCCTTGACTC
 TCTCTTATAT TAAGAATTAA ACAGCTAAGT TCATGCAGAG GAAATATAAC AAAGGAGGGA CTTTCTTACA
 AGATCTTTGA AAAATGGAAC ATTTGCATAA GTCATATTTA GCCAGAACTG TTGTTTTATA TTTTCTTTT
 TGAATACTTT GTTACACCTC CTCCCAGCCA ACCCCCCCCC TCCCTGACCC CAACTAGTCA GAGACCAAAG
 25 CTTTACAAT GGTATACACT TGAACCTTCC TGGCCCCACC CTCATCATCA CGCTGAATA ATTACATTCA
 CTGACTGGTC TCCCCTGCTT CCGTTTATCT CCACCTCTAA ACCCTCTGAC ACCTTAATCT TCCCAGAATA
 CCATTGTGAT CCTCTCCAC TCTTGCTCAA GTTTTCCCAG AAACCTAGAGT ACAAACCTTA TAAGCTTTAG
 AGTTGAAAGC CACCTATCT CTTTTTCATC CCCAGGTCTC TGCCAAGGCA GTATAACCTG TCCAACATCT
 CTAACCTCAA TACCTTTGTC TTAGATACTA GACTCTCCTC CTGGTTTCTA ATTAAACCTG ATCTAGGATC
 30 TAATTTTGCC TCTGAATTCT GTTGCCCTTT GCCAAGTGAT CTCTTCTCC TCTGAGCCGC AGCATCTCTG
 AGCTTGACACA CTTA GCATAG CCATAGCACA CACAGCCTTA GCTTGCAGTT CAGGGTGTIT ACCTTCCCTC
 CCCTTCCAGA TGCTGGATCC CCAGGATAG GAACTCTGCC CTATGTGTC CATAGCCCTT GGTAGTATGT
 CTTGCAGTCG TACA/TTTCA GCAAAATGTT AATTGGTTAA TTGAAGACAA CTGTCCCATG CCTTAAGCCT
 CTCTTTTTCG TAAA/CATGCC TGTGTCCTTT GTCATTGAAC AACTATTTTG ATCTATTTTC TTCCTGACAT
 35 AGGGGTCAGT TCCCAGGATG CTGAAATCAA GAGACATAGC TTATTCTCTC ACCCACTTCA GCAAGAGTGT TTGAAACCAA
 TTTTGTGTG AATTGAGAAC TGGCTGCCTA CTTTGTGGACT ACCCACTTCA GCAAGAGTGT TTGAAACCAA
 ATCTATTCTA AGTA/ATTTT TATTCCTTT TCTCTATGGC ATTAGACACA CAGCTCTTTT AAACCTACTT
 TCGTTATCTA TTAAACAGAC ATTCAGTAAC TCTATAGACA CTGTCTAGCT ATATGAACTT AGACAAACTA
 ATATCTCTGA GCTTCAGTT CTAAAAATTT AAAATGAGGA CAATACCATC TATGGCCGGG GATTAAATGC
 40 TATGAGGAAT GTA/ACCAGA TGTCAGGTAC CATCTCTCTA AAATCCAGAT AAAATGAATT AAAAATACTG
 GCCGCAAACC CTC/CTAAGA GTTCTCAAAA TTCTCAGAGA GCTTAATTTT CATGCTCACC ATAGCACCAG
 TTTTCTCTA AATA/TTTTGT TTCTACCAA ATATTTTGTC CCAATTTTGC CTTTATGGC TATTTCTTCA
 TATCCACTTT CCAAACCTAA AGAAGCAGCC CCTTCACTT TCAAAGCAA TTTCAATACA CCTAAGTACA
 GGTCTGGGTT TGTAATCCTA GTGGGATGTT ACAGAGGTTA GTGTGATGCA GAGGAGGAGT CATGCTGTTT
 45 AAATCCATAC TAGTCCCCAG AGGCCAGGCT GCTTCTGCCA CCCCTACCCC TCCCGCCACA GAGCTCTTCA
 GCTTCTCACA TTCTAGTTC TTCTCTCTCT ACTTTCATTA CCTTCTCTCT TTTTTTTTTT CTCTCATGT
 GCTCACGGGA GCAGAGAAAA TTAACCTCTC TAAGTTTTCT TAACACAGAG TGCCTTAATT ACATATTACT
 ATTGTTTGTG TTCTGCCAA CACTACGTCT GTAGGGTCAC ACCTGCTATA TTAGAGGCTT ATCAAAAAAA
 GATAGCTTTC TCCTAAAAAG GGATTGGAT GCCTACTAAG ATAAGAGATA GGTACTTATT GCTCAGCTG
 50 CAAAACTTTA TTA/TATTAT TATTATTAT ATTAGAGATA GGTACTTATT CTGTCACCCA GACTGAGTG
 CAGGGATGCA ATA/ATAGCTC ACTGCAGCCT CAAAGTCTCG AGTTCATGCA ATCCTTCTGC TTCAGCTCCC
 TGAGTAGCTA GGACTACAGG CATATGCTAC TCTGCCCAGC TACTTTTAAA AAAATAATTA GGGATGGGGT
 CTTGTTGTAT TGCCCAGGCT CGTCTCAAAC TTCTGGTTTC AAGCAATCCT CCTGCCTTT ACCTCCCTAA
 TTGTTGGAGT TACAGGCATG AGCCACAGCA CTCAACCAAG ATTTAAAAAC TTTTAAAAGA AATCACATTA
 55 CTTACTGTTA TCATCATTAT GTTACTACC AGTGTAAAA CAATTGGTAT TGAAAACACC ACTACCAGAT
 CAAGCTTCAA ACCA/AGATGT CAAGTAAATA TTATTGTCAG ACCTCTGAGC CCAAGCCTGC AGGTATACAC
 CCAGATGGCC TGA/GCAAGT GAAGAATCAC AAAAGAAGT AAAATGGCCG GTTCCTGCAAT TAACATGATG
 CATCCACCA TTG/GATTG TTCTGCCCC ACCTGCACTG AGGGATTAAC CTTGTGAAAT TCCTTCCCCT
 GGCTCAGAAG CTC/CCGACT GAGTACCTTG TGACCCAC CCCTGCCCAC AAGTGAAAAA CCCCCTTTGA
 60 CTGTAATTTT CCACTACCCA CCCAAATCCT ATAAACAGC CTCACCCCTA TCTCCCTTCG CTGACTCTCT
 TTTCAGACTC AACCTGCCTG CACCTAGGTG ATTCAAAAGC TTTATTGCTC ACACAAAGCC TGTTTGGTGG
 TCTCTTACA CAGACCATGT GACATTTGGT GCCGTAACCT AGATCGGGGA ACCTCCCTTG GGAGATCAGT

00404 " 5294560



5	CCCTGTCAAT	CCTCCTCTTT	GCTCCATGAG	AAAGATCCAC	CTATGACCTC	TGGTCCTCAG	ACCAACCAGC
	CCAAGGAACA	TCTCACCAAT	TTTAAATTGG	GTAAGTGGCC	TCTTTTTACT	CTCTTCTCCA	GCCTCTCTCA
	CTATCCCTCA	ACACTTTTCT	CCTTTCAATC	TTGGCACCAC	GCTTCAATCT	CTCCCTTCCC	TTAATTTTCAG
	TTCTTTTCTT	TTTCGGTAG	AGACAGAGGA	AACGTGTTCT	ATCTGTGAAC	CCAAAACCTCC	AGCACTGGTC
	ATGGACTTGG	AAAGACAGTC	TTCCCTTGAT	GTTAATCAC	TGCAGGGATG	CCTGCCTGAT	TATTCACCCA
10	CATTTTCAGAG	CTGACTGATC	ACTGCAAGGA	CGCCTGCCTG	GATCCTTCAC	CTTAGTGGCA	AGTACCACTT
	TGCTGGGGTG	GCAAGCACCA	CCTCTCCTGG	GGGGCAAGCA	CCACCTCTCC	TGGGGGGGCAA	GTACCCCCCA
	ACCCCTTCTC	TCCA TGTCTC	CACCCTCTCT	TCTCTGGGCT	TGCCCTCTTC	ACTATGGGCC	ACCTTCCACC
	CTCCATTCTT	CCCTTTTCTC	CCTTAGCCTG	TGTTCTCAAG	AACTTAAAAAC	CTCTTCAACT	CACGCTGTAC
	CTAAAACTTA	AATGCCTTAC	TTTCTTCTGC	AATACCGCTT	GACCCCAATA	CAAACTCAAC	AATGGTTCCA
15	AATAGCCTGA	AAAACGGCACT	TTCAATTTCT	CCATCCCACA	AGATCTAAAT	AATTCTTGTC	GTAAAAATGGA
	CAAAATGGTCT	GAGGTGCCTG	ACATCTGGGC	ATTCTTTTAC	ACGTGCGTCC	CTCCCTAGTC	TCTGTTCCCA
	ATGCAACTTC	TCCCAAATCC	TCTTCTTTTC	CCTCCTGCCT	GTCCCTCAG	TCCCAACCCC	AAGTGTGCT
	GAGCTTTTCC	AATCTTCTCC	TTCTACTGAC	CCATCTGACC	TCTCCCTCT	TCCCAGAGCT	GCTCCTCTCT
	AGGTGCTCTC	CCCGCAGGCT	GAATCAGGCT	CCAATTCTTC	CTCAGCTGCC	GCTCCTCCAC	CCTATAATCC
20	TTCTATCACC	TCCCCTCCTC	ACACCTGGTC	CAGCTTACAG	TTTCACTCTG	TGACTAGCCC	TCCCTAACCT
	GCCCAACAAT	TTCTCTTTAA	AGAGGTGGCT	GGAGCTAAAG	GCATAGTCAA	GGTTAATGCT	CCTTTTTCTT
	TATCCAACCT	CTCCCATCTC	AGTTAGTATT	TAGGCTTTTT	TTTCATCAAAT	ATGAATACCT	AGCCCACTCC
	ATGGCTCATT	TGGCAGCAAC	TCCTAGACAT	TTTACAGCCT	TGGACCCAGA	GGGGCCAGAA	GGTCATCTTA
	TTCTCAATAT	GCATTTTATT	ACCCAATCCA	CTCCCAACAT	TAGAAAAAGC	TCCAAAAGTT	AGACTCCGGC
25	CCTCAAACCC	CACAACAGGA	CTTAATTAAC	CTTGCTTCA	AAGCGTACAA	TAATAGAGTA	GAGGCAGCCA
	AGTAGCAACA	TATTTCTGAG	TTGCAATTCC	TTGCTCCAC	TGTGAGAGAA	ACCCAGCCA	CATCTCCAGT
	ACACAAGAAC	TATCAAAATG	CTAAGCCACA	TGGTCAAGC	ATTCCTACAG	GACCTCTCTC	ATCAGGATCT
	TGCTTCAAGT	GCCA GAAATC	TGGCCACTGG	GCCAAGGAAT	CGCCTCAGCC	TGGGATTCTT	CCTAAGCCAT
	GTTCCATCTG	TGTGGGACCC	CACTGGAAAT	CGGACTGTCC	AACTTGCCCA	GCACCCACTC	CCAGAGCCCC
30	TGGAACCTCTG	GCCCAGGCT	CTCTGACTGA	CTCCTTCCCA	GATCTTCTTG	GCTTAGTGGC	TGAAGACTGA
	TGCTGCCTGA	TGCTCTCAGA	AGCCTCCTGG	ACCATCACAG	ATGCTTTTGG	TAACTCTTAC	AGTGGAGGGT
	AAGTCCGTCC	CCTTCTTAAT	CAATGCAGAG	GCTACCCACT	CCACATTACC	TTCTCTTCAA	GGTCTGTGTT
	CCCTTGCTTT	CATAAATGTT	GTGGGTATTG	ATGGCCAGGC	TTCTAAAACC	CTTAAAACCT	CCCAACTCTG
	GTGCCGATTT	AAACAACATT	CTTTTATACA	CTTCTTTTAA	GTTATCCCCA	CCTGCCCAGT	TCCCTTATTA
35	GGCTGAGACA	TTTTAACCAA	ATTATTTGCT	TCCTGTACTA	TTCTGGGACT	ACAGGCCACAT	CTCATGTGCT
	CCCTTCTTCC	CAACCCAAAA	GTGGCAACTC	CTTTGCCACT	TCCTCTCATA	TCCCCCTACC	TTAATCCACA
	GGTATGGGAC	ACCTTACTCT	CCTCCCTGGC	AACAAATCAC	ACCCTCATTA	CTATCCCAT	AAAACTAAT
	CACCCTTACC	TGGCTCAACG	CCAGTATCCC	ATCCCACAAC	AGGCTTTAAA	GGGATTAAAG	CCTGTTATCA
	CTTGCTGTT	ACAATCATGT	CTTTTAAAGC	CTGTAAACTC	TCCTTACAAT	TCCCCCATTT	TACCTGTCCA
40	AAAACTGGAC	ATGCTTACA	GGTTAGTTCA	GGATCTGTGC	CTTATCAACC	AAATTGTCTT	GCCTATCCAC
	GCCATGGTGC	CAAAACCATTA	TACTCTCCTA	TCCTCAATAC	CTCCCTCCAA	AACCCCTCCA	TAACCCTTAT
	TCTGTTCTGG	ATCTCAAAAC	ATGCTTTCTT	TACTATTCT	TTGACCCCTT	CATCCCAGCC	TCTCTCACT
	TTCACTTGGTA	CTGACCTGTA	CACCCATCTG	CCTCAGCAAC	TTACCTGGGC	TGTACTGGCG	CAAGGCTTCA
	TGGACAGCCC	CCAATACCTC	AGTCAACCCA	AATTTCTTCT	TCATCCATTA	CCTATCCAGG	CATAGTTCTT
45	CATGAAAACA	CACGTGCTCT	CCCTGCTGAT	CATGTCCAGC	TAATCTCCCC	AACCCCAGGA	CTGGCAAATT
	GACTTTACTC	ACATGCCCCA	AATCAGGACA	CTAAAGTACC	TCTTGGTCTG	GGTAGACACT	TTCACTGGAT
	AGGTAGATGC	CTTCCCACA	GGGCCTAAGA	AGGCCACCGT	GGTCATTTCT	TCCCTTCTGT	CAGACATAAT
	TCCTTGGTTT	GGCCTTCCCA	CCTCTATACA	GTCTGATAAT	GGACAAGCCT	TTACTAGTCA	AAGCACGCAA
	GCAGTTTCTC	AGGCTTTGG	TATTCAGTGA	AACCTTCATA	CCCCTTACCG	TCCTCAATCC	TAGGAAAGG
50	TAGAATGAT	TAAATGTTCT	TAAAAAACAC	ACCTCACCAA	GCTCAGCCTC	CAACTTAAAA	AGGACTGGAC
	AGTACTTTTA	CCACTTGCCA	TTCTCAGAAT	TCGGGCCTGT	CCTCGAAATG	CTACAAGGTA	GAGCCCATTT
	AAGATTCTGT	ATGCACGCTC	CTTTTTATTA	GGCCCCAGTC	TCATTCCAGA	CACCAGCCCA	ACTTGAAGTG
	TGCCCCAAAA	ACTTGTATC	CCTACAATCT	TCTGTCTAGT	CATACTCCTA	TTCACCATT	TCAACTACTT
	GTAAATGCCC	TGCCCTTTT	TACAGTGTCT	ATTATACTT	TTCTTCCAAA	CCATCATAAC	TGATATCTCC
55	TGGTTTTACC	TCAAACCGCC	ACCCTTAAAGT	CTCTCTTAAA	GTGGATAGAA	GATCTTCAGT	GACAAGGTAC
	ACTCCAATAC	TTTACCCTA	ATAAAGCCCT	ATTCCTTACT	TTTATATTCA	CTCTTATTCT	TGTTCCCAT
	CTTATGCCAC	TCTCTACCTC	TCCCAGACT	TCTCCACCAC	ACTATCAATC	TCACTCACTC	TCTCTAGCC
	ATTTCTAATC	CTTCTTAAAC	AAACAATTGC	TGGCTTTACA	ATTTCTCTTT	CTCCAAAAAT	CACCGAGTCC
	TCAATTTACT	CACGTCTAAA	AAAGGGGACT	CTGCATATTT	TTAAATGAAG	AGTGTGTTTT	TTACCT

[illegible]

CGCAGCCCCT AGTCATGTAC CCCCTGCTTG CTCCCCCTGC TTGCTCAATC AGTCATGACC CTCTCACGCA
 GACCCCCTTA GAGTGTGAAG CCCTTAAGAG GAAAAGGAAT TGTTCACTCG GAGAGCTCGG TTTTGTAGAC
 ATGAGTCTTG CCAATGTCTCC CAGCTGAATA AAGCCCTTCC TTCTTTAACT CAGTGCTGGA GGGGTTTTGT
 CTGTGTCTTG TCCTGCTACA GTTTCATCTA ACAACCCCAT AATATCACCC CTTACCACAA AATCTTCCCT
 5 CAGCTTAATC TCTCCACTC TAGGTTCTCA CGCCACCCCT AATCCTGCTC GAAGCAGCCC TGAGAAACAT
 CGCCCGTTAT CTCCTCACAC CACCCCCAAA AATTTTCACT GCCCAACAC TTTACCACTA TTTCTTTTA
 TTTTCTTAT TAATATAAGA AGATAGAAAT GTCAGGCCTC TGAGCCCAAG CCTGCACGTA TACATCCACA
 TGGCCTGAAG CAAGTGAAGA ATCACA AAAAG AAGTGA AAAAT GGCTGGTTCC TGCCTTAACT GATGATATTC
 CACCATTGTG ATTGTTCCT GCGCCACCTT GACTGAGGGA TTAACCTTGT GAAATTCCTT CCCCTGGCTC
 10 AGAAGCTCCC CCACTGAGCA CCTGTGACC CCCACCCCTA CCCACAAGTG AAAACCCCC TTTGACTGTA
 ATTTTCCACT ACCC ACCCA ATCTATAAA ACAGCCCCAC CCCATCTCCC TTTGCTGACT CTATTTTTGG
 ACTCAGCCCA CCTGCACCCA GGTGATTCAA AAGCTTCATT GCTCACAAA AGCCTGTTTG GTGGTCTCTT
 CACACCGACA CGCTGTGATA TTATTATATT AAAACCCCTT CAGAGTCTCG CAGGGAAGGC
 TGTATATATC TCATAAAATG TTGGGGCCCA CTGGATCAGA CAAGGCCACA AAGGCCAAAG GGAAGTAAAG
 15 ATCTCATTAT TTCTCCTAAT AATTTCCCTG TCCTTTGTCA TAAATGGTGG GTAGGCTGTT ATGGTGATGG
 CAGATTTTCT TTCCATAAAA TGTCCATAAT AGGACATTG AACAGAAGGG AAAAATCAAA TTGCTGAAAGT
 TGAAAGAGGG CAAAGCAAAAG AACTTTGGAG AAAGAACTGT ACAGAGAAGT CAACTGGCAG ATGGGAGGAA
 GTTTAAGGGG AAAAATATAG ATGTCTAAAG AATACATTTA TTCATTTTCC ACAGTGCAAT TTGGACAAGA
 AGCCTCTTTC TTGCTTCTTT CTATTCTCAT TAAATCATT GAGCTCAAGC AATCCTTCTG CCTCAGCTTC
 20 CCGACTAGCT AGGACTACAG GTATGTGCTA CTATGCCAG CTAATTTTTT AAAAATTAGA TTTAATTTG
 GTGAACTATT TCTGTAGGAA ACTACAATAA TACAGCCAG GCACATTGAT CTGGGTGAA CAAATCAGAA
 GGAATGAATA ATTCTGTGTT CCTGGGACTC TGACAATTTT ATGAACTTGG TACTCTGAGT AAAGCATAGG
 AGGAGTTATT TCAATAAATG TGGAGCACAA TCATGTGACA AAGATAATGG GATCCCCATT TCATAAATAA
 ATCTGAAGTT CAGAGAGAGT AACAACCTGGC CAGGGTCACA TCACGGAGAC AGAGGCAGGG TTCCCACTGA
 25 TGCCTCTGAC TCCCTGTCCC AGGCCCTTCC TCCTCCCGCA AGCAGAAAGT CAGGGGGCAG AGCTGACCCT
 GTGCAGTGAA AATCTGAGGG CTGAGTTCTT ATTGGAACAC AAGTGAAGA CTTCCTGGCT TCTAATCTCA
 GGATAAGGAC TCAAGCTCC ATCTGTCCA GCCTTAGGAT AAGAACCAGA ATCTTACACC ATGAAAGCAT
 GAAAGGTAAG ATTGAGTGA GGAAAAAAGT GGTGTTTCAG TGTGTTTCAG ATTCAGTTCA CAAAGCAGTT
 TCATACTTAA GGTACCATCA CAATAACCCCT GTGGGGTAAG CAAGGCAAAT TTCATTCTG TTTTATGGGC
 30 ATAGGAAGTA AGTCTCAGGG AGGTTAAGAC CAAGGTTTCT GGAGAAATTT ATATTATGAA TCTTGATTTA
 TGGGATTACT ATTAATGTAAT TCCTAAGATC ATATAGGAAT CCTAGAGCTT GAATATAGAA CTTTATTTT
 AAATCTATAT ACAATCATAAT TACAAGGAGT AGTGTCATT TGGGTTCCTT GGCCCTGATG TGTTAGTGGA
 ATAAACATTT TTGTCAGGGT TGCCATGTGT GTCTGTGCAC GTGTGCACTG TACACCTCCA GGGGATGTAC
 CCTAAACCAC ATGAATGTGA TTTGCACATC CAAGATTAC AGTGACTAT AGGGAGAATC TTTTGCAACA
 35 GCTTTTGCTA TAATACAGAA TCTGAGATG CTTTGAGAAA GAAAAGTGTA ATCATTACCA AAAAATTATT
 CTCATAATGT GTGCAAAATT GTATTGAAATC TATATTGGCC ATGGGACAAG GAGGTATTTT CAGCTAGCTT
 CTGAAAGGGC TCTATTCTCT CATAAGAATT CAGCTGTGTA CATTAGGTGA TATCTGCCCA GGTCAACAGA
 TGCCATAGAG AAAAGGGGTT TGCTGAAACT TATATCAGCA GTGCACTGTA TGCTCTTCT GATTTATTTG
 AACATTCAAT TATTGAGTGT CAAGTAATGC ACTAGATACT CCAGGGATCT GACACAACT CTGCCCTGAA
 40 GGAGCATGTA ATCTCACTGG GGAGAAAACA AAACATATGA TAATTTCAAA ATAACAACT AGGCAAACTA
 GTTAACACTT AAAAGCAGG CTTTATTCAA ATGCAAAATT GCATGTTACA GGGTAACCTT TCAGTAAGAA
 GCCAGGAAGA GGAATCTATC ATGGGTGGA TTAGTAAAG ACTAGTTATA AAAGAAGTGG TGGGGTTGAG
 GGAGGCCTGA GATGAAATTT AAAGAATATG TAGAATTAG GTAAGTGAT AAAAGGTCTG GGGGCAGGGG
 AAAGGAGAGC ATTTCATTGT GAATCAAGGA ATTTCTCCAC CTGTTTTAAC TCTCCATAT GACATCAAAG
 45 AGATGTCACT TGCAGCTAGC ATTTCACTGA TGTCTTCTTA CTAATAATAT CGTGATAAAA GAAACATTGA
 CTATAAGAAA TAGCAATGGG TCTCATAAAA GGAAACAGCA AAACCCCAA ACTAAAAAAC AGCGCAGGCT
 ATTTCTCTCT TCTCTCTTT TGCTTGGCAC TCATGAGATG CTAGGTGTGG AAGTCAGCCA ACTGAAAAAG
 AGAGGTGGCT GAAGAAGGTG GGGAGGCTGA AGCCAGTTAA ATAGGATGGT CCAATTCACA GACGGCGAGG
 CTACAGTGCA AATAGGACTC TTTCAACTTG AGCAGGACCC CATTACTTCA CTGGAGTTAG AAAGAAAGGA
 50 GAGCGTAGAC TTTTGAAC TTTCTAAGA GTGTACCTCC ACAGTATACA GAAGACGACG TGAAATTTGA
 TCTGCAAGAA AACCTGAGTCC ATATTACAT ATGTATCAAA TTTGCACTTC ATTTAGAAGT GTCTGTCTATC
 AAGTACAGCA CTGAATTGAA ACTGAAAACA AGAGTCAAGA AAGAGCAAAG TCAGCCATCT TTATATTCCA
 CATGAATCCT TTCTTTTAT GGTCTTATTT GTTCTCTCT AGAAAAGACA AAAAGCTGAG CTGTATAAAC
 ACCTGTGGGC TGGCGGTTGA GGGATAAATG AGGGGCGAAA TGGAAGCTGA AGGAAGTGT GGTGAGGTAG
 55 AAATCTTCCC AGATGCACTG AAGGAAACAC ACTTCATGTT TGACGTAGGA GGTGCCACCA CACAAAACGT
 TTCATGGAAG GATATAAAG ATCTCATGAT TTTAGTATT CCAAGAATTT TCTTTCACCA AGGGCGATTT
 AATATGGGTC ATCTATACTG AAAGAAAAAC AAAAGATAAT AAGAGTTTAA AAATTGCAAA ACTTGGAGTG
 TTAGTAGTAA AGGTAGATG CATTAGAGG TGAGAGAGG AGCAAGGAAA TGCTTTTCAG TGGAAATCTC
 AGACAAGAGG CCAATGCTTTA GGAACCTCTG AAGATGAACA AATGTAAGCA AACCTTAGTA GCAGCACTTC
 60 TCAGATTTTC ATGTGCTTAC CACTCAGAGA TGGTGTAAAA ATGCAGACTC TGATTACAGTA GGTCTGAGTG
 GAGCCTGAGA TTCGCACCC CTAACAAGCT CTTAGTGAT GCTTATGCCA CTGGCGCACA GACCCCACTT
 GGAGAAATTT TTGTTGGTGA TACGGTCTTT GTCTCCAGAT CTAATGAGTC TGAAGGACAG TGTAGATTGA

004040" 529E4560



5	TTTTTAAAT	TTATGTTAT	TTTAATTTAA	TTTAATTTAA	TTTATTTATT	TATTTATTTT	TGAGATGGAG
	TCTCACTCTG	TTGCCAGTC	CGGAGTGCAG	TGGCACGGAG	GCAGCTCATG	CAACCACGGC	CTCTGGGTT
	CAAGCGATTC	TTCC GCCTCA	ACTTCCTGAG	TAGCTGGGAA	TACAGGCACG	TGCCAGCACA	CCCAGCTAAT
	TTTTGTATTT	TTAGTAGAGA	TGGGGTTTCA	CCACATTGGC	CAAGCTAATC	TCAAACCTCCT	GACCTCATGA
	TCCACCTGCC	ACGCCTCCG	AAAGTGCTGG	GATTACAGGC	GTGAGCCACC	GAGCCCAGCT	GTAGATTGAT
10	TTTGAGCAGT	GGAAGTCAA	GGAATTAGAA	GGCATGCTTA	AATGGAAAAGT	GAAATTGGAG	AAAAATTTAAA
	CTCATGAAAT	ATTAGTGGTT	ATAAACTCGT	GATAAATTTA	ATCCTGGGAT	ATAATTTAAT	GAGATGGTAA
	CACATTTAGT	TTAAGAAAT	AAGTGACACT	TTTTTTGTGT	GACACAACCTG	TCTTATCTTT	GGAAAGGACA
	AGGAGAGAAT	GAAATATGGT	ATGTCTTCAC	AGCACCTTTC	AAAGGGAGAA	CCAGATTCTG	AGGAGCTGGT
	CTCATGATGA	ACTTCAGGG	TAAACCACAG	TTCAGCAGCT	GCAAAATGTGC	TTGCCAAAAT	AGAGACAAAA
15	AAATGTTTCT	GAAACAAAA	TTTCACATAT	GCCCTCCTCT	GAGGTTGGCA	TCATATCTTC	CTGTGTATC
	TGGGTGTAGC	TTCTATCCTG	CCAGAAATTA	GACAGTAGAA	ACCAAATGAG	GTGATAAACA	GAGTCATTTT
	GCAGAAGAGT	CAAATAAACC	CAGCAAGAAA	TGAAACCACA	AATGCCCAAG	GAGTCATTCA	TTCACCATT
	AAAAAGCTAAT	AGAAATGAAC	ACAAACTACT	ATGAAAATTC	ACCCAAGAAC	TTAAAAAATA	AAAAAAAGGC
	TCATGGTGTT	TAGTGTGATA	GTATTCATT	TACCTTTGAC	TTGTTCTAAA	AACACACCAT	ACTTCTACCC
20	CACCTTCCT	CAGTGCCGTC	ACACAATGGT	TTCAGTGTGA	AAAAAAAAC	CACGTTACTG	GAAAAGGAGG
	GTGCCTGGGA	CTTCCACTC	TAAGCTGGTA	GTCAAGGGTC	TTGAGTTCTA	AAAGCATACG	CGTTAAGAGC
	ATGATTCCTG	GATCCAAATG	AGTATGGATC	TCAGCATTGC	CATTTATTGT	GACCTCAGGC	TATTTTATTT
	CTCTGTGCCT	GTTTCTTTAT	CAGTAATGAA	GATGTTCATA	GACCTTCTC	CCACAGACTT	AAAGGCATAT
	TTCATGATT	AAGCATGTA	AACCATTCT	AACAGTATAC	AACATGGAAT	TAATATTTGA	TAAAGGTTTA
25	TGATTATTGT	AACTAACTCT	GTCATTGCT	CAAGGCCTAT	AGAAAACCTA	CTTAATTAGT	TCAACTACAA
	AAAGAGTTTG	AATGTGATAT	CCACCAAGAT	CATATTCAGA	CCTAGAATTC	TGTGATTCT	ATGAATTAAT
	ACAGCCTTGG	TCAATAAATG	AGAGCTGGGC	AAATAATCT	CTTTGTCTAG	GCCTTCTTAG	ACCATCTGGT
	GAAAGCATTCA	AGACTTATGT	TATTGGGGCC	AGCCTTCTCT	TCCAACCTCA	ACTCCACAAC	TCCTCAATAA
	GCCATGGGCT	CAAGAAAGTT	CTGCTCAGTG	GCCCTGAAA	AATGCTTTCA	TAGTCTCACT	ACCATACCAC
30	TGCTTACACA	ATTTCCTTCC	TACAGACTGC	CTTCTTTCC	TGCTTTTCTC	CATATACCTA	AATCCTATCT
	ATTCTTCATA	AGCACCTTC	TTTATAACAT	TTTCTATAAC	CACCAAGCCA	AATGACCTTT	TCCTTCTTAA
	ATATAGCACC	CATTGGCCAT	TACCATGCTC	TGCCTTGAT	TTTTCTGATT	TTTTTCTTTC	TATATTCTCG
	TCTTAACTCC	CCACTAGGT	AATAATTTTC	CTGAAATCAG	GGACCAGGCT	GACTCCTCTT	GCTGTCTCAA
	GAAAGCCTTAG	CAGTTCCAA	CACAAAAATG	TTCAATAAAC	AACATTAAT	TGACTGATTA	TAAAAAATCA
35	GTGAACCAT	AACTTAAATA	TAGCAAAATTG	CTTAGCATGG	TAATTAGCTT	TTTGCTAATA	TTCTCCAGC
	CAGTCTCTCC	TCTGTGCCT	CAAGGACATC	TTAAAAAATA	AAAATCTAGT	TGATCTGCTT	CCATCTAGTG
	GCAATTAATA	CAGTGGTTTC	CGGTAGCCAG	AAAACAGCTC	TGGGTAGATT	GTGCCAGAAA	ATACTTTCAC
	TCAGTAGGTG	CGAGTTTGAA	AGAAATCTTC	ACATCTGTGG	GTTTCCTGCC	ACAGACATAG	GGAGACCAGC
	CCAGAGAAAG	AAGCTTTTCC	TCACTAGACT	CCATTTGCAC	TAGTAAAGAG	AAGACAGAGT	AATTAATAAG
40	AATAAAAAAGA	ACCTCCACTG	ATCGTACATC	CTCATCCAGT	TACCCCTGCC	CCACTTCTCC	TTCACAGCCA
	AACATTTTAA	AAGAGATGAC	TGCTTGTCT	GTCTCTACT	TCTCATCCTC	AGTAATGCTC	AATGCTTTGGC
	CGTCTGACCT	GTGCTTGAT	GTCTGCACCTG	CAAAATAGTCT	CCCCACTGAC	ACCTCTGTGT	CATCCAGGGG
	ATACTTACTG	GTTCTTTGG	CAATGTTTGA	AACCGTTCCC	CTTCTTTGT	TTCTTTGGCA	TTCAATTACC
	CACACTCTTT	CTCTCTTCC	TTCTCCCTGC	CTGGCAACAT	CTTTTCATTT	CTCTTTCCCT	TAGGTGACTT
45	ATTAGATAAT	GATGTTCTCT	TGGCTCCCAT	ACTCTCTCCC	AGGTCTCTTT	CCATTCTTAA	AGCACTCACA
	CCCTCCCTGG	ATGATAGTAC	CCACTCCTGA	GATGGCAGTT	ACCTCCTGAA	ATGTGAGGGA	CCCAAATCCA
	CTTCTCCTGC	CATAGCCTCT	GTGCTTTGGA	TAGGTCCAA	GAGCCACAGT	GAATGATGTG	CATACACCCA
	AAGCTCAGTA	CAAACCTGAA	CCCATGATCT	TTACCTCCAA	AACCTCTCAT	TCTTTTATGT	TCCCTTCTCA
	GAAGTAAACA	GGAATACCAT	CCGCCAGTTT	CACGGTGAGA	AAGATGATAA	TTTGATTCTT	CTCTCTCACT
50	TTTAGCCAAT	TAAACAGACAC	ATTCAGTTAA	TATCACTCCC	TCTTATTCTA	TGAACCCATT	CTTACTACTA
	GTTCCCTAGA	CAGGCGCCAT	CGGTTTTAAT	CTAATAACTG	CAAATGCCTC	CAAAAACAAGT	CTCTTTGAAT
	CCAGGCTCAC	CTGCTCCTCA	CACCTTGCCAT	ACTGCTCTGC	AGGGTGACCT	TATAAGATGC	CAGAGGTAAG
	GCTACTCACT	GTTTAAACCC	CTTTAGTGAT	ATCCCAAAAG	ACCTCAAGAT	AAAGCCCAT	TCACATGGCT
	TATACATTAG	TTTATGATCT	GGCTTCTGGT	GCCTCATTTT	TCCCCACTTT	TTCTTTGCA	TTCTAAGCAA
55	TGGCCCATAC	TAAGTTTGTG	ATTGGTAGGA	TGGTTGCCCA	AACCAGCATC	CAATCCCTTC	AGAAATCATC
	TCACCTCATT	TCTAATCATTT	TAAAGGAAGC	TCAGTTGTCC	AGCTGGGTAG	TGAATATGTC	ACCAAAGTCC
	TCTTTTCAAT	GTTATTTTAA	CTTAAACTCT	CCTTCTTAAA	ATTCAGAGAC	AAGTCACTAA	ACCCTAGATA
	CTGAGAAATA	TTTTTCCATC	TTCAATTTCTG	CCAGGTGGGC	CATCAACTTT	CACATGCTCTG	CATCTCCTCC
	CAGTGTGCTA	TTTCTCCAGT	AGAAGAAATT	TGAGCTTCAA	GACCAAACTG	AAAAATACTT	GCCTCCT

[illegible]



5	AATCCAAGGC	ATGTAGGCTC	TTAGAGGACA	GAGATAGTGT	GTCATTTTTT	CAGAATTAAT	TAAGAGCAGG
	CCAGGCGTGG	TGGCTCACAC	CTGTAATCCA	AGCCCTTTGG	GAGGCCAAGG	CAGGCAGATC	ACGAGGTCAG
	GAGATCGAGA	CCACTCTGGC	TAACACAGTG	AAACCCCGTG	TCTACTAAAA	ATACAAAAAA	TTAGCTGGGC
	ATGGTGGCAC	GCTCCTGTAG	TCCCAGCTAC	TTGGGAGGCT	GAGGTGGGAG	AATAGCTTGA	ACCCAGAAGG
	CGGAGGTTGC	AGTGAGCTGA	AATTGCACCA	CTGCACTCTA	GCCTGGTGAC	AGAGTGAGGC	TCTGTCTCAA
10	AAAAAAAAAA	GTA'TTAAAGA	ATTACATAAG	AGCAAAGAAC	CATTAGAATA	TCTCACTTAG	TTGTTATCAC
	CCTAGCAAGC	TGCC'TTGAAG	GTAATAGAGA	TTTTTAAAAA	TTTATCAGAT	GAAAGCGCAA	AATCAGCCAA
	CCTGTTTTAA	TGAAGGTGTG	TCCTGGGCTG	ATTACATGTG	CTCCAGGGAC	TGATGGCTCT	AGAA'TGTAAA
	GCTTGGCATC	CTGCTTGTGT	TGAATCTATC	ACATTTAATT	TCTGTGGGGT	TTCTTTTTTT	TTTCTTTTTT
	ACTTTAAAGT	TGTC'TTCTTT	TCATGTGAAG	TTAAACTCAC	ATACCTTTTT	TTAATCTCCT	TGCCAGCCAA
15	ATGATAAATG	CCA'CCCAGA	GAATGCAGTA	ACCATGACTG	CCACTGGAAT	GAAGAGGGGG	TTATAATCAC
	CCTCCTTAAT	CATT'3AGAAA	CTTTTGTCCA	ATTCTGAAAG	AGAAATCAGT	AAGGCACATA	GCATGAGACC
	ACCAGCATTA	TTT'CCTTAGT	CTATCTCATG	ATATTTGACT	TTTTTCCTCC	TTACATCTCC	CAGTAGTAGC
	CCATTTGATG	CCAT'ITGACA	GATGAGGAAA	CTGGCATGGG	AAGGCCCTCG	ATGAGTCTAC	AGCATAGGCA
	AAGACTGGAC	CAG'CCTTGCT	AGTCTAATGC	CTACAGAATC	TCAATGCCCA	GATTTGTGGT	TCATAGAGTT
20	CCTGAAAAATG	CAC'TAAAAA	TGTTGGCAAG	AATGGTCATC	GTGTATTTA	GCTCCATGGA	CTTGTTCAAT
	GACTGGAACT	CTG'AACACA	GAGAAGAGCT	AAAAGCCTAA	TACAAC'TTCA	GGAAAAATAA	AAGCCAATGA
	TCTGAACTGG	ATA'ATCACC	AGTCAAAGGA	AATCATTAAT	GCTTTTACTT	TAAAGCAGTT	GTGCAAAAAAT
	AAGCACTTGA	TTTT'TACATG	CCAAGGACCT	GCACTAATTT	CTTTCCAATG	CAGTAGTTAC	CACTTCCCTC
	TACTTCCTTC	ACGAATAAGT	AAAAGGGCAT	GTTTAGAGAT	ACTCTGTGAA	GTGTAAACTA	AGTTCATTTG
25	GGAGCCTCTA	TTT'CAAAATA	CTGGTATAAA	AAAAAATCTG	TCTCCTGATA	CTAACATTTG	AAGGAATCTA
	CTTTTTTACA	TATTGGCAGA	GGGTCTGATT	CTATCCTTAG	TTCTTCCCAT	TACTTTGATG	AACCTTTTTA
	AGGTGATTTG	ATCC'CCACAC	CCAAATATAT	GATTGAGAGA	AGGCTCAAGT	TCCCAGGAGC	TCCAGACAGA
	AGGTACCTGT	TGGC'TTGATG	AAGATGAGGA	GGAATGGAAC	ACTAGCTAGG	CCTTAAAGGG	AAATGTCTCT
	GATAGGCCTA	ATACACAGTC	CTCTGCTAAA	GGCCTCCCTG	CCTCTCTCTG	CTCATCCACT	CTACTCCCTG
30	GCCCTGGGCA	CGC'AGCACAC	AGAGATCAGC	ATTTCTGACA	GCTTCTGTAG	ATCCTACCAT	TTAAAGACTT
	TGTGCATCCA	TGCAGATAGT	CTCAGGAGCA	GACACAGGTA	GCTATTCTTT	CACATGCTAG	CTTAACATGC
	ATTTGCTTTA	GCACCTATTG	CCAGGCACTG	TGTCAGGTGG	AGGGTATACA	AAGATGAACA	AGACATGATT
	CTTCTCATAT	ACACATAGAT	TTTGGAGGCA	TTAGCTTAGT	GATGATTGAG	GAGTATCCAT	TATTTGGGGA
	AGTAGGTGGT	CATT'AGTGAC	CTTTTACAGC	CATTTCAATG	GGTAAACGTA	GATGTTAGAT	TGTAGTGGAA
35	TAGAAAGAATG	GGT'A'AAAAGT	AAATCAGTGA	TTTCAGATTT	TAGGAGTTAA	GATGGCAAGA	GGTGAGAACA
	AAAAAAGGAA	ATG'ATTGTCA	TTAAAGGAGG	AGGAAAGACC	AGCCAAAGAT	TTTACAGTGA	GTTAAGCATA
	CAAATTTATT	TCTAGGCCAC	ATATTCTTAG	CAAAACAACA	TGTAAATGTT	TATGTATGTC	TTTCTCTATA
	TCTGCTCATC	CATCAGCTCC	ATCGTTAAGA	TTTCAGTTTT	CCAGGACAAA	CTTACTCACT	TTGACATATT
	GGACTAGGAT	TTG'ACCAGAT	TCCAGATGAT	TCACAAATGG	TTTTCTTCTT	CCCAATTAAC	TCAGTTCCTT
40	CTGAGCAGAT	GAAGGTACAT	GCAGAGGTAA	AGCTGAAGCT	GGCCAGGGGA	TGGCTACAGT	TCATGATCCC
	CAAATCTGGT	GCTGATAGAG	GCTCAGACTG	AATCACTTCA	ATGAAAAAGA	AAAAAAAAAA	AAAGACAAA
	CAGTATTTCT	GAGTAGAGAC	CCTCCC'TTGA	GCAAAGGATT	TTTAGCCAAA	GCTGCCTGAC	TACATTACTT
	GTGATATTGC	TTCCAGGCTT	TATTTTCTTG	AGAATGATGG	TGGGTGGTGA	ATGAGAGATG	AAGGCAAGGA
	AGCATTGAAA	GCTGTGGGGA	GAGGAGTAGC	TACTCCAGGC	TGCTGCCCTA	GCTAAGGTGA	CCCTCCCCTT
45	CTGCTGGAAG	TAC'ATGCCA	TATGGCCTCT	GCATCAAGGG	CTCTTATGGG	ATATTCTCAG	AGAATCTCTG
	CCGTTTCATC	TGTTCTGATA	TCTACCCAAG	CATTTTGAAA	AACATCCCAA	TTCACTGAAG	CAAGTCCAAC
	TTCCGTAAAT	TCC'GTAGGT	GGGTTGACAG	TTTTATAATT	TCAATAAGGG	ATTTTGATAG	CACTTCTAAG
	AATTAACATA	CTT'AACTAA	TGCATCAGGA	GCATACTTGT	AGAAAAGTTA	ACCAAAACTT	CGTAAGTTCA
	GATGACATTG	GTTT'TCTCCC	ATATGGAGAT	AAGGTTGGCA	GTTAAAAATG	AAAAAAAAAA	AAAAACCTAC
50	CTTATTTCAA	ATTG'AAAAG	ATCAAGAGAT	TGTGTTTTTG	TTTTTCAAGT	GTTATTCTCC	TAAAGTTTA
	TGCATGAGGA	AAAGTAAAAAG	TGATTTTAAAG	AATAAGCCAA	ATAAAACAAC	CAAGAAAGAC	CTCCACTACC
	CTGGGAAGGA	AAC'GGTTGG	TATTAAGTAG	GACACCACAT	AAAACAGGTG	TTATTGAGAG	GAGAAGAACC
	AAAAATGTAAC	TGAGGTTCAA	CAAGACATTA	TTTATGCAAT	GGCAATGAGA	AAAATAAAAA	ACACAGTATA
	ACCATGCTGT	ATTGCTATAA	GTCATGTTAC	ACACTGGGAG	ATGGCTTCAG	GGGTATTTGG	TTTTTACTTT
55	TTGTTTGGGA	GGT'TTTCAA	AAAAATTTAG	TTAGAATAAG	TCCTTTGAGA	AACATCACAG	TAGGTTAAAC
	AAAGTTAGGT	TAA'ATTAGGC	TCCTAAGTTT	GACTTCTCAG	CAAAC'TTCTA	CTGAATGTTT	TGACTGTAAG
	CCCAGGATTG	CATGACAAAA	CCTCTAGTCT	GAAGTACTCT	ACCTTGACAG	TTTGTTTCTG	GAGATGACCA
	GTTTCCAAAT	GGT'CACACAG	TGGTTTCTTC	AATCCCAGTC	AAGTTTGTTT	CTTCAGAGCA	GCTGAAGGCA
	CACTGTGAGC	TGA'AGCTGAA	GTTTCCCAAA				

[illegible]



5	GAAGACATTT	TGACCTCAAT	TCTGTCTTCT	ATTCTAGCTC	AGTTCAGAA	TTTAACTCT	TTTGATTTTG
	ACAACCCTCT	CCAGAAACTG	TATCTATTTC	CCTGTTCTGA	TTGGTGGTAC	AATAGGTA AAA	TTTAAGACTT
	GGAAATCAAA	GTTTTCACAT	TTTAGACCCT	GCCATGCCAT	TTAGTAAACA	GTACAACTTT	CATGCTTTAT
	TCCTCATCTG	TCAAATTTAA	GCCATTATTG	CTACCTTGCT	CTAGAGACTT	CAAGGAAGAA	TGGACTCAAG
	GAATCAGAAG	AATTTTGTA	TTTGAAAAC	ATATGAGATG	AGATTAGGGA	GAAACATGGG	AACTAAGAGA
10	AAATGTTATC	TTTTTTCATT	GATTTAAAGA	GTATCTATTA	TATATCAAGC	ATTACTCTGG	GGCTTGAAGA
	GCTTAGATTT	CACCCTGTAG	GACAAAAATGG	TAGGTAGAAA	TTAATGGGTG	GATTGTCTAG	TATGTGTGAT
	GTGTTTTAAT	TGCTTTTAAT	TGATCAGTCT	CCCTGTAGTA	TGAATAATGT	ATTGTAGGGG	AGCTAAATTTA
	AAATTGTGGA	ACTCATCTAA	TAAACTATTG	CAAGAATCTA	GAAGAAAAGAT	AATGACGGCA	ATGGTAGTAG
	AGTTGACAAG	TGGAGACAA	ATTAGAAAAA	CACTAAGTTG	TAAAAATTGG	TAGAATGTTA	CCCTGCATAA
15	ATGTTGGGGG	AGTTAAGAGA	GTCTCATACC	AGGGTGCCCA	TGTAAATGGT	GATTCCACAT	ACTGAGATA
	GAAATACGAA	GAGAAAAGCT	GACTGGGAAC	AATTGGTTTT	ATAGTCTTTT	AAACATCCCA	AAGGACATCC
	TTAGCATATT	TGACTTCAGA	GCTGGAGATA	GGCTTATCAG	TCCAAAGATC	ACATAGATTT	GTGAGTCCGC
	AAAAGTCAAT	AAGTTTGACC	AAAGGATACA	TGTAGATTAG	AGTCAGAAAG	GCAATATACA	AAAGACAAAA
	GCTGAGAAGT	TATAGTAGTT	TATGGTCTCTG	GATAAGTGCT	CATGAAGGAT	CTCAGGAGAA	ATGATCACAG
20	GTAGAAAAGAA	TAGAGAAAAGA	GTGATATTAG	AGAAACCAAG	ACAAAGAAAA	GTAAAATGTT	AAAAATCAGT
	GAAATAGGCA	TACCAATAAT	TAAAAATGAG	TAAAAATAGGC	ATACCAATAA	CATAAGGGTT	AAAAAATAGA
	GTTCAAAAAT	GGGGTGAGGG	TAAAGTATTA	GGAAGGAGTC	ATGGCCAGG	GATCAAGTGA	AATGAGTTAG
	ATCTATAGAT	CTAATTCAGT	TGGTTGACAT	TTAAATGTAT	TTTGGTTTTA	ATTCTTTATT	GTTTACAAAC
	ATTGCTTTTT	TAAAAAATTA	AATTGTCCAA	TTCAATT CAG	GCTCACAAGC	AAGTGCCTCA	TATATACAGG
25	CATTTTGTGG	ATCCCAAAGA	TGCAATGATA	AATAGGACAC	TTACTGATCT	CAAGAAGTTT	TCAGTACCAG
	AGGAGACGGA	CAAGTGAACA	GATGACTTCA	ACATAAGTGG	GAGAAATGAG	GAAGAAATAT	GTGGAGCTAT
	CAGAACTAAG	AAGCTTCTCT	AGAAGAAACT	GTCTTTGAAC	AATGCTTAA	AGATGACATG	TTTTTTGGCC
	ATGTGCAAAA	TAGAGAGAAA	GGCCACCAGC	AAAGTCAAGT	TGCTACAGAG	CACATGTGTT	AAGTGTGGAG
	AACTGCAAGA	AGGAAAGGAA	CTACTAGAAG	GAAAAAGCAA	GATACTTTCT	GGGTA ACTCA	GCCTCCTAAT
30	GATAAATGGC	ATAATTTCTT	CCAGACCTTA	GAGTTCTAAT	TAATCTAACA	AGCTCATTAG	ATCGTGAGCT
	TCTTGAGAGC	GGGAATCTAC	CATGCTAATT	CCTTATGGTA	ACCCTGACAG	CTTTTATCCC	AACACTGTGC
	TTCTTGTTGT	ACTCAAAAAG	ACTTGTTGAG	AAGTGAGTCG	AAACTTCATG	CTGACTTATG	AAATCTTTAC
	GGAAAGGTAA	CAATATTTGT	AAAGCAGAGC	TTTCTGATCA	AAACTTCCCA	TTTCTCAGAG	TGGCTAGTAT
	CATTTTGTTC	CAACCAGCTT	CATGATAAGC	TATAATGATT	CCTGTGACTT	TACCTAAGAA	GAAGCAAAAG
35	AAGGAAAGAG	ACTTACCAAA	CTGACACTGG	GGCCCATAGT	ACCCACATC	ACAGTTGCAG	GTGTAATTAT
	TGATGATTTT	TACACATTCT	CCATGGCCAC	TGCATGACCA	GGGCTGGCAA	GAAGCTTTAA	GGAGGTCAGA
	AAAAAAATAT	TTTAATGTGA	TTACATTTTA	GTACTCAAAG	TCATTTCTTT	AGACATAGAT	AACCTTTTGT
	CTGAGATGAT	TTAATAATC	AGGAAAGGTT	TATTTGTAAA	TTCATAGCAT	AAAAATCATA	TGCTAAAATT
	TTTACGTATA	AAATACACTA	AGCATATAGT	CATAGGCATT	TATTTGCTTT	TGGAATGAAA	TTACCAATAC
40	TAATATTCTG	TAACACTTAT	AGGAAACTTA	GTGGCATAAC	TTGAAACTCT	TGAAATTACT	TGTTTTTAAT
	GAGTGAGAAG	GTTAAATGAT	GACCTGACCT	CAATCAATTC	TGCATGCAAT	TATTTCTTGG	CAATCCCTTT
	CTTTATAGAA	ATCAAAGATT	AAAAAGTCCA	AATTTGCTAA	AACGGTAGAG	TCCAATTTAT	AAGAGACCAA
	ATTAACATAG	GTTCATTATT	AAAACATCCA	TGTGAAAATG	CTGGGCTTTT	TGGAATTGTA	GAAAGATTTTA
	CAGAAATATT	CATACACCAA	AGATAGTGCA	ATTTTTATAT	AAAATTATAT	AAGGTTAGAC	CAAGAAGGAA
45	GCACGCAGCA	CCACACTCTC	TACTTCACAA	TGTGAAAAC	GAGGTGATGT	GAGCCTAAGT	TTCCA ACTGG
	CCCCAGCTGT	CAGCTTCTCC	TCCCTGCTC	TATTATCAAA	GGCACTGATT	GTCTAGCTCT	TCCTCTGTAC
	TTCTACGTA	GATCTATCAT	TTTGATGTAA	CTTGATTTAG	GGGTATAGCT	TTTGTGACA	GGGACAAATC
	TTACACACCA	AAAATTCTTA	GGAGTGACAC	GATGCAAGAT	TATATAGAGG	GCTAGATGTA	TTTAGAATG
	AACCAGAAGC	TGTTCTCATC	CCCCACCTT	TCCATGGGGT	AAATCTGAGT	ATTCTCTTAA	CCGTGGCCCT
50	TCCTGAGTCT	GAGGCAGCAT	AGCCGTCTTG	TCACTCCCTA	CTGTGTAAAC	GAGGGCTGCG	CTTTAGTTTG
	TGGCAGGCGT	CATCTGTTCCA	TTTGCCTGCA	TCTTTGTTTC	TCTTGATATA	GAGCTCCACG	CAGTCTCTCT
	TGTTCTTCTT	GTGTGTTGGC	TCACCATCTC	CCCAGTTCTC	TGCTTCTTCA	GTAAGAGATT	TGTTGGTTCC
	CACCCACGTC	CATATTCTCT	CTATCTTCCG	GATTCCATAT	CAGTAGTAAG	AACGACTGAA	AGGCAGAGTC
	TTCTCCAGAT	ACTCAATTTC	CGCCTTGTTT	TGTATGGCAA	CTAAATCTGT	GTAATTGTCT	CGGCAGAATC
55	TTCTAGCCCT	TTGCCAGTTC	ATGGGTTTTT	CAGAATAATG	GTAAGTCCAG	CAGTCGGTTC	CATGATGTGC
	CAGGAAATCT	GCAAGACATC	AGTGTGACCT	ATGCAGACTT	ACATAATGTT	ACAGCTAAAA	AGAACCTTAG
	ACTACTCCAG	GCTCAGCTAG	ACACTTAGAG	ATGAGGAAAC	AGAGCCTAAG	AGTGTATGTG	ACCATCTCAG
	GATCACAGAA	TAGTTGTTTG	CAGATTTGAA	GTAGAACCTA	GACCTTCTGG	CTGGAATATA	AGATGCTTTT
	ATCTAAGGTT	CTAATTGAAA	CAAATTTAGT	GGTTTTCTAG	GTTTATTTTC	TTATTAATTT	TTTTCTCAAA
60	ATTATTT CAG	GTGAAATTTA	ACCAACATAT	TTTAGACATT	CATATTTCTT	TTTCTTTGTA	GCTGTTAATG
	ATTTACA ACT	AATTAACGGTG	TAATATCATA	TA ACTATACA	ATTTACGTAT	ACTTTTTAAT	CCTGGAATCA
	TTTCTTGAAG	GCCACACAT	ATGTACCTAT	GGGAGAAGCA	TAATAAGGAC	AGGAAGAACA	GTGACATACT
	TTTAAGTAAC	CTCTTTTACA	TAAAAAACAT	TTTATTTTAC	CATAGGAAGA	ACTGCTTCTG	GAAAAGCCCA
	ATATAACCAT	CAACTCTTAT	ATATCTAACT	GTATAATTTT	TAAAAAGAAC	AATTTACAAA	GCCAAATGGT
	ATAGGATTAT	GAAATTCATT	AGATCATGTT	CTATACACAA	AGAGACTCAA	CTGATGATGT	TTAATAACA
	TATGGACCCA	TCAATATATGA	GGGCTTTGAA	GATATCTAAT	TAAACACATA	ATTACACAAT	GACTTCATA

[illegible]

5	TAATATATGG	CATICTAAGC	ATGGTATGAT	CTACATGAAT	CAC TATT TAA	TACAGTAAAG	AAACAGATAT
	AATTGATGGT	AAAGAGCATC	ATAAAATAAA	CATTTTGAAC	AGAGTTT TGA	ATGAGCATT C	CACTAGAATG
	CAAGTTCTAA	GAGGAAAAAA	ACTGTTGTGT	CCACTGCTGT	ATCCTTAGTG	CCTAGCATAA	ATTTACACAC
	TTGTAGGGAC	TCACAAAAATA	CCTGTTGTAT	GAAAAGAGCA	CTAAGTTTCT	ATGTGACACA	GTGCAGACAT
	GGCATAAGGA	ATG GTGAAC	GGGAGAGTTA	GCATGTTTGC	TTGGCTAGAG	CTGAAAATCC	AGGCTAGGGA
10	GAAAGAAGAC	ATTAGTTTAC	TTAGGAAATG	AAAAACCAAG	TTCAAAGCTA	TTGCTGGAGA	GTCTTCAAGA
	ATCAGATATA	AAATTTGTCA	CAACAATGGG	AGAAGGACCA	AAAAATGATA	AACCCCGCTC	CCTTAATAAG
	CTCGTATTGT	AATT TTAGAA	ATGACATTAA	TGTACACTGA	ACTATGAATA	AAAAATAGAA	AATGAGGTGC
	TAAATATTTG	GTACAGATTG	TAAGTACCTT	AACAGAGATT	TCTTAATTAA	CATTATTCCCT	TTATAATTGA
	GGGATTTTGT	GGGCTTATTG	GGATTTGAAC	TCTACAGCAT	GGGCTATTAT	AGGTTAAAAA	TAGTGTTCAG
15	GAGTTTCTGG	GGA GAAC TA	AAGGTAAGAA	GAAAAGAGAT	GTTTACAGAA	GGGATAGAAT	TAACAGCTC
	GTGAAATAAT	TTTC CCTTAG	ACTATGTATA	ACTAGTGGAT	ATTTAAGAAA	AATGAATATA	AGTAAAAATAG
	ACTTAGCGAT	ATATAAATAT	CATAACATAC	CACAACAGAG	CATTGTCCAC	CCCCACAAC T	TGAAGATGTT
	CCATAAGTCC	CTCTGGGTGC	TCTGACATTAT	CCATGGAAAT	ATCTGCAAAT	GAAATACAAA	ATTATATTTA
	TAGGTATACT	CTTA AACCA C	ACATTTTATG	CCTTTGAGGT	GGTGCTTACA	ACTTCTCTAA	TAATCAGAAT
20	AAAACACATA	TGTTACTATA	CCCTGTCTGA	GGTAACAGGT	TTCTCAGACA	TAGATGAAAA	ATTACTTCAA
	ATTTACATCA	GAACTGATGC	ACAGTTTTGT	TTTGTCTTAT	TTTATTTTTA	CGCTTTAGTC	TCAAGTTGCT
	AATCGGTACT	GCCCTGAATT	TTTTCTATGG	TTTGGTAATT	TTTATACCTG	CTTTTCTGCT	GAGCTATTAG
	ATAAACTAT	TTAATATTTA	CTATGTATAT	TTTTTAAAGT	ATTGTTGCTG	CTTAATTAAC	TATTGATGCT
	TATATTTAAT	GTATAGCCT	CACTCTTGAT	CATAATGGGT	CAATGCCTCA	AATACCTAAA	AAAAAAAAAA
25	ATTAGATAGC	CAGACACCAG	GAAAGAAAAAG	TATTTCTTTT	TTTAATAAAA	AGAAATACCT	TTTTGAGCAA
	CTGAAATGAC	AAAGTCACAA	ATTTCTCTGCA	CAGCTTAAAA	TATACTTAAT	GTAATGAGC	AGTTAATGGG
	TGCAGACAC	CAACATGGCA	CATGTATACA	TCTGTGACAA	ACCTGTATGT	TGTGCACATG	TACCCTAGAA
	CTTAAAGTAT	AATTTTAAAA	AAATTCTATC	TTCCAAAGCA	TATCACTTCT	CAGGTAGACA	CAGTGTTTAT
	TGCAAAAGAT	CTGATTTCAA	TAGTATTTCT	TCAAGAGTCT	CCCCAGAGAC	AAAGTCAAGA	AGAGGAAATC
30	AGCATATCTG	AGAAGAAAGA	TTTCAGGATC	ACTTTTTTTG	AGGGTCTGAG	AAAAATGTTA	GTTTCTATAT
	TATTTAAAAC	CAGAAATTGAA	ATGGGGTGAT	TCCTATCCTT	GCCACCTGCC	TCTACAACCC	CAAGAGTTTC
	TATCTGAGCA	TCTAAACGTC	TTTTAGGCTG	AAAGGCTCAC	CATGGCTTTG	CTTGGTCTCT	CTCTAGTTCT
	TCTGCAGCCC	ATTC AGCCTC	TTGACTTAGC	ACAAGGGTCT	CAGGTCTCTG	CCCAAAGGGA	GTGTGCTGTG
	CTGCAGAGTAG	ACTGCACTGA	ATGTCAACAG	AAAGCCTTGC	TTTCTTTTCA	TTCTCTAACC	CAGTCTCACA
35	TCCTCCTGCT	CCTCCCTTTT	TCCCTCCCTT	TCCTCCTGCA	CTTCTCTTTC	CTCTTTCCCT	ACCCCTTTCC
	TAGACTGGCC	TCTATTGCCT	CCCACCTGAG	CAAAATGAA	CTGCTGATCA	GAAAGTAATG	TGACTAGATT
	CTCTCTTCCT	TCCC TCCTTT	CTATCCTTCC	TTCCATTCTC	CTATGCATCT	TTCCTTACCC	TCCTCTCCT
	TCACTCATTG	TTG TGCTGT	TCTTCTTCCT	CTTCTTTTTT	CTCCTGCTCC	TCTTCTTCTA	CTTGTTCTTG
	TTCTTGTTTT	TGTTTGGTTC	TTGTTCTCCT	CTTCTCCTT	CTCTCTCTCC	TCCTCTCCT	TCTTTTCCAC
40	CACCCTCCCC	TATCTTTTTT	ATAAATGCTA	AACTAACTCT	TGGCTACCTG	TGGTAAATGG	CCCTTGAAAA
	TTGCAAATAC	TACAATCAAA	AACTGCATTT	CAGACATATT	TATGATGTTT	GCAAAACTTC	AGTAGAGCTA
	AGCAGGTGAC	TTGATCTGTT	TCGGTTCCTT	CACCTCCGTC	TTTCTTGTCT	CACCACCTAG	TGGACGTCTCT
	TGTTAGTGGC	ACTTCTTGAA	GTTAAACCCCT	GAAGAGAGCC	CATGCTCTCT	AGCTTTTCAC	CGTGTAGGTT
	TGGGAGCCTA	CAAGTACCTT	TAATATTCTT	GGACTATAAA	ATGAGATGGT	TTTATAAGAC	TGCATGTGAA
45	ATTAGGACCC	ATAIGATGAA	GGACAATAAA	AAGGAAGACC	CAC TGATGTG	AGTCAATGAG	TCAAATGCAA
	ATCAGATTTG	CATITTTAGG	AAAATAATAA	TAACAACAAC	AAAAACTCTG	AAGCTCAGCG	CCCCATATTT
	ATTATATTGT	TTAA TCTTTA	TAACAGCTCT	CTGCTATAGA	TATGATTATT	ATCCCCATTC	TAAAGAGTCT
	CAAAGAGGTT	AAGAAACAAA	TTCAAAAAC T	AGCGAAAGAC	AAGAAATAAC	TAAGATCAGA	GCAGAACCAT
	AGGAGGTAG	GACACGAAAG	AGCCTTCAAA	AAATCAATAA	ATCCAGGAGC	TGCATTTTGA	AAAGATTAAC
50	AAAATAGATG	GACCATACAG	TAGACTAATA	AGAAAGAAAG	ATCAATAGAC	ACAATAAAAA	ATGTTAAAGG
	GGATATTACC	ACTGATCCCG	TAGAAATACA	AACTACCATC	AGAGATTACT	ATAAACATCT	TTACACAAAT
	AAACTAGAAA	ATCAGAAGA	AATGGATAAA	TTCTTGACAA	CATACACCCT	CCCAAGACTA	AACCAGGAAG
	AAGTCAAATC	CCTGAATAGA	CTAATAACAA	GTTCTGAAAT	TAAGGCAGCA	ATTAATAGCC	TACCAACTAA
	AAAAAGCCCA	GGATCAGATG	GATTACACAG	CAAAATCTAC	CAGAGGTACA	AAGAGGTGCT	GGTACCATTC
55	CTTCTGAAAC	TATTCAGAG	AATAGAAAAA	GAGGAACTCC	TCCCTCACTC	ATTTTATGAG	GCCAGCATCA
	TCCTGATACT	AAATCTGGC	AGAGACACAA	CAAAAAAAGA	AAATTTCAGG	CCAATATGCT	TGATGAACAT
	CATTGCGAAA	ATACTCAATA	AAATACGGCA	AACTGAATCC	AGCAGCACAT	CAAAAAGCTT	ATCAACCACA
	ATCAAGTTGG	CTTCTATCCT	GGAATGCAAG	GCTGGTTCAA	CATACACAAA	TCAAATAACA	GAATCCATTA
	CGTAAACAGA	ACCAATCACA	AAAACCACGT	GATTATCTCA	ATAGAT		



5	CTTACAAGGA	ATGIGAAGGA	CCTATTCAAG	GAGAACTACA	AACCACTGCT	CAAGGAAATA	AGAGAGGACA
	CAATGAATG	GAAAAACATT	CCATGCTCAT	GGGTAGGAAG	AATCAATATC	ATGAAAATGA	CCATACTGCC
	CAAGGTAATT	TATAGATTCA	GTGCTATCCC	CATCAAGCTA	CTACTGACTT	TTTTACAGA	ATTAGAAAAA
	AACTACTTTA	AATTTCATAT	GGAACCAAAA	AAGAGCTTGT	ATAGCCAAGA	CAATCCTAAG	CAAAAAGAAC
	AAAGCTGGAG	GCAATCATGCT	ACCTGACTTC	AACTATACT	ACAAGGCTAT	AGTAACCAAA	ACAGCATGGT
10	GCTGGTACAA	AAACAGATAT	ATGGACCAAC	GGAACAGAAC	AGAGGCATCA	GAAATAACAC	CACACATCTA
	CAACCATCTG	ATCTTTGACA	AAGCTGACAA	AAAGAGCAAA	TTGGGAAAGG	ATTCCTCAT	TATATAAATGA
	TGTTGGGAAA	ACTGCTGAGC	CATATGTCAGA	AAACTGAAAC	TGGATCCCTT	CTTACACCT	TAATAAAAAA
	TTAACTCAAG	ATGCATTAAA	GACTTAAATG	GAAGACCTAA	AACCATAAAA	ATTCTAGGAG	AAAACTAGG
	CAATACCATT	CAGGACGTAG	GTATGGGCAA	AGACTTCATG	ACTAAACAC	CAAAAGCAAC	AGCAACAAAA
15	GCCAAAATTG	ACAATATGGA	TCTAATTTAA	CTAAAGAGCT	TCTGCACAGT	AGAAAAAAA	AAACTATCA
	CAAAGTGAAC	AGGAACCTA	CAGAATGGGA	GAAAAATTTT	GCAATCTATT	CACCTGACAA	AGGGCTAATA
	TCCAAAATCT	ACAAGAAACT	TAAACAAATT	TACAAGAAAA	AACAAACAAC	ACCATCAAAA	AGTGAGTGAA
	GGATATGAAC	AGAAGCTTCT	CAAAAGAAGA	AGTTTATGCA	GTCAACAAC	ATATGAAAA	AAGCTCATCA
	TCACTGGTCA	TTAGAGAAAT	GCAAACTCAA	ACCACAATGA	TGGGCCATCT	CATGCCAGTT	AGAATGGCGA
20	TTATTAAAAA	GTACAGGAAAC	AAACAGATGCT	GGAGAGGATG	TGGAGAAATA	AGAATGCTTT	TTACAGTGTT
	GGTGGAAGTG	TAAATTAGTT	CAATCATTGT	GGAAGACAAT	GTGGCGATTT	CTCAAGGATC	TATAACTAGA
	AAAACCATTT	GACCTAGCAA	TCCCATTA	GGGTATATAC	CCAAAGGATT	ATAAATCATT	CTACGATAAA
	GACACATGCA	CACCTATGTT	TATTGAGGCA	CTATTCACAA	CAGCAAAGAG	TTGGAACCAA	CCCAATGCC
	CACCAATGAT	AAATGAGATA	AAGATGATGT	GGCACATATA	CATCATGGAA	TACTATACAG	CCATAAAAAA
25	GGATGAGTTC	ATGICCTTTG	CAGGGACATG	GATGAAGCTG	GAAACCGTCA	TTCTCAGCAA	ACTAACACTG
	GAACAGAAAA	CCAACATTA	CCCATTCTCA	CTCATAAGTG	GGAGTTGAAC	AATGAGAACA	CATGGACACA
	GGGAGGGGAA	CATACACAC	TGGGGCATGT	CAGGGATGT	GGGGCTAGGG	GAGGAACAGC	ATTAGAGAAA
	ATACCTAATG	TAGATGACAG	GTTGATGAAT	GCAGCAAAAC	ACCATGGCAC	ATGTATACCT	ATGTAACAAA
	CCTGCACGTT	CTGCTCATGT	ATCCCAGAAA	TTAAAGTATA	ATTAAAAAAA	AGTTTAAAAA	AAGAAAAGTTG
30	CCTTAGTCAC	ATAACTAGTA	AGAGACATGG	TTGGGAATTT	GAACAGAGGC	CAATCAGTTC	CAATCCATG
	CTCTTGATCA	TTAACTTGAA	CTTATGGCAG	GAACCTTGAA	GACATGGTAA	AATGGGGAAA	AACGTGGAGC
	CAGGGAGACT	TGTGAAAGTG	CCAGTGCTCC	CACTATACCC	TGAAAGAAGT	ATCTAGACTT	ACTTTTTTCT
	AAGTCCTCTC	CTCIAATTCT	CTCAATCTCT	CTCTCTCTTT	CTCTAAGAGA	TGGGAATGCT	GCTCTGTAC
	TCAGGCTAGA	GTGCAAGTGT	GCGATCATAG	CTCATGTCAC	TCAAGGAATC	CTAGGGTCTA	GTGCCCCCTC
35	TCCTCCAGCC	TCCCATTGAT	CTAAGACTAC	AGGCACATGC	CCCAACCTC	GACTAATTTT	TTATTTTTTT
	ATTTTTGTAG	AGACAGGATC	TCACTATGTT	GCTCAGGCTG	TAATCTGTCT	TTGAAGCTTG	TCCAATCAGG
	CTTTCAGCCA	CACCAATTCC	CTGAGACTGC	TCTCACCAAG	GTCCTACACT	TCACTAACAC	AAACAGCCTA
	TTCTCCATCC	TCACTTACT	TCACCAGGGA	GCTCTGGTT	TTCTCTCTAC	TTCACTGGCT	ATTTCTCTG
	TATCATGTGT	TGATCTCCC	TCATCTCCC	AACCTCCAAA	CCCTTGAGT	ACTCCAGAGA	TCACCGCTTT
40	GCTCTTCTGT	GTCTAACCTC	ACTAACTTGG	TGGTCCAATT	CACACTCTTG	ACTTTGAATA	CCATTTAAAT
	GCGAACGAAT	TCTAATTCT	GTACAACCAG	AACCATTTCT	CTGTAGCCAA	ATGCCTACTC	AACATCTCCA
	TCCCAACAA	ATTTAGTTG	TTCAATAAGC	CTCTCATATT	TTACATATCC	CAAACTGAAC	TTCTGAATTT
	CTCCTCCAAT	CTTAGGGCT	CTTCCCACAG	CCTTTCCATC	TCAGTGGAAT	ATAACTCCAT	CCTTCCAGTT
	ACTCAGACCA	AAACTTTTGG	AGTTAACTGA	GACACCTCTC	TTTTTTTTCA	CAAGTCATAT	CCAATGTGTC
45	AACAAATTTT	GGTAGTGGA	ATATTGCGGG	ATTTTTTAAG	AAATCAGAGA	GACCGATGGG	GTTCAGGAGG
	ATATTTATTA	TTTAAGTGCA	CTGGCCAAGT	CAGATTAACA	TCCAAAGGAC	TGAGCCCTGA	ACAAAGAGTT
	AAGTTACCTT	TTAAACATTT	TGTGGGGTGG	GAGAGAGGGG	TATCTGTGCA	GGGGGAAGCA	TACTACAGAA
	GTGAGAAATA	AAGACAGTTA	TTCAATTAAT	TGAGACATGC	ATTACATCAT	TTCTTACTTT	TCAAGAAGAA
	ACATGTTTTG	CGACTGTAGT	TTATCTGTCT	AGTGACCTTG	CAGCTGCACA	GCTAGAGAAA	CAGGGTCTTC
50	ACAATGGCTG	GGAAGGAGT	AGAGGTAAGT	CTCAGTAGCC	ACAGAAAAAC	AGGCAGTTAA	TTTTAAAGG
	GCTCCAGCTC	TTTCTTTTTC	TCAGGGGGAG	TTGGGTTTTG	TTACATAACA	CTGAGTTTCC	GCTTACACAT
	TATTTAATTT	CTTTTAATTC	CTGTTCCAAA	AGAAGCCAGA	TACAAAAAGT	TACATGTTGT	CTGATTCCAT
	TTATATGAAA	CATATAGAAG	AGGTAAATCC	ATAGAGACAG	AAAGTAGATT	AGAGGTTCCC	AGGGGCTGAG
	GAAGAAATGG	GGAATAACTG	CTTATAGGGT	ACAGAGTTTT	CTTCTGATAA	AAATATTTTG	GAACATAGATA
55	GACATTTTGT	TAGGCCATT	TTGCATTGTT	ATAAAGAATT	ACCTGAGACT	TGGTAATTTA	TAAAGAAAAG
	ATGTTTAATT	GGCTTACAT	TCTGCAAGCT	TTACAGGAAG	CATGGTGCCG	ATATCTGCTC	AGCTTCTGGT
	AAGGCCTCAG	GAAGCTTACA	ATCATGGCAG	AAGGTGAAAG	GGGAGCAGGC	ATATCAGATA	GCAAAAGCAG
	GAGCAAGAGA	GGGATGTGGG	GAGGTGACAG	TCACTTTTAA	ACAGCCAGAT	CTGTGTAGAA	CTCATTACAT
	ATCATGAAGA	CAGTACCAAG	AGGATGGTAC	TAAATCATTC	ATGAGAAACC	CCACCTCAT	GATCAAATCA
60	CCTCCCACCA	GG					

[illegible]



	CTCCATTACA	GATC ACCGCA	AGATTTATTT	GCTCATTGCT	GCCAAACCAAG	GCTGCACTCA	CTGCAGTTGC
	TATCAGTTTA	TCAT3GGTAA	AAGGAATGTG	CAGTAGAGAA	CTAACTAACT	GCCCACCTAC	CTCCACAATC
	CTATCAGGAC	AAA`CACCAT	GGTCCACATT	TCCTTACATT	TGGCATGTAA	GCCCCTCTTA	CTGTCTGTCA
	TCTATCTCCT	ACAC AGTTCA	CCTAAACTGT	TCTCTCCTGA	CCCAACCTTG	ATTTTCATCC	CAAATGCTTC
5	CTTGCCATCT	CTGC GATTCC	TGTCTTCACC	ATCACCAAAC	TCCCCTCAAT	CTTCCAGTTT	CCTGTTCAAA
	CTTTTCTCCT	ACCTCCTTGC	TTTGTCATTA	GCCCGACTGC	CTCCCTAGGA	CATCACTTCC	CCTGCAGATC
	TCTCAAGATG	ACAATATTTA	TTCTCCACAC	AGCACATACT	TCAGGGTTGG	AAGGCAGGGG	CAATCTTCTC
	CTTTATAATG	AGTC CCTCTT	ATATATGTTT	ATTCACTTGC	CCTCTGTAA	AACACACACA	CACACACACA
	CAAGAAGAA	ATAAAATAAC	TCTGCTTCTT	TGAAGCTTGT	GACACTGAGA	TAAACCATCT	CACTGTCCTC
10	ATTGTAGTGA	CCTCTCAACT	CCTCATGCAA	GATTGGCTTT	GGCACCTAGT	TCCTGATCTT	CCTTTCCCTG
	TAAGCACTTC	TCATAGTCTT	ACGGGACTTC	ACCATCCATG	GCACAACCAA	TACCACAGCC	CAGATCCTCA
	GCTCTCCAAT	GACATTTTCC	TCCACTAGAC	TGAGCTACC	TCCTTCCCTA	GGCACAGCCT	CAACCTCGAC
	AACACCTAAG	ACTGTACCGT	CTCTAAAGTC	ACATGTTCAA	ACACTTCACT	CTTTAACCAC	TGTCTCCTAT
	TCTTGCAAGT	GTATGTCTCA	AGTATCTCAT	TGCAATGCTT	TTTACTTCTA	CCTCAATTGAA	CCTCCAGGCC
15	ATTAACAATT	TCC`TATTTT	TAACCATCAG	GTTTCTCCTT	ACTGTGTTGT	TGTGTTATTT	GTTTCTTTTT
	TTTTTTTTTT	TTTGAGACAG	GGTCTCACTC	TGTTGCCACG	GCTGGAGTGC	AGTGGTATGA	TCTCGGCTCA
	CTGCAGCCTC	CATCTCCCTG	GTTCAAGTGA	TTCTCATGTC	TCAGCCTCCC	GAGTAGCTGG	GACTACAGGT
	GCATGCCACT	ACGCTCTGGT	AAGATTTTGT	ATTTTTATTA	GAGAAGGGGT	TTTGCCATGT	TGGCCAAGCT
	GGTCTCGAAC	TCCTAACCTC	AGGTGATCCA	CCTGCCTCAG	CCTCCCAAAG	TGCTGAGATT	ATAGGCATGA
20	GCCACTATGC	CCCACCTGGT	TCTCCTTAT	TTATTTCAAG	TCTATGCTGC	ACTATTAATA	CTGCCTTGAC
	AAAAATTATA	ATAGTGAGAA	AATTATGACA	GTGAAAGAGA	TCTGAAATAA	TCAACCCCCA	TCTTGCCTTT
	ACCTTCCAGA	CTGCCTTAA	TAATTCTCTGA	GCTTGGGCCA	AGCTATCTTT	GGCAGAAATT	TAGTTTATAG
	TTTAAAGTAT	AATAGCCCTT	CTCCAAAACT	AAACTGCCTT	TGTAATAACTA	ATAAAAAGCC	ACCAATTGAA
	GGTTAGGAGG	ATGAGAGGAG	CCTGAATTCT	GCTAAGGTGT	AGATGTAAAC	AATTACCAAC	TGTTATTCCG
25	GAGGTCACAA	GAT`TGCAAC	ATCGCCAATT	ACTCCTGCAG	ATAACAGCAC	TATCATAGAA	TCTGATTGGC
	CTTTTGAGAT	GTCTTTTCAG	ATTCTTACAT	TTCAACTGGT	GGCTCTACCT	GGACCCATCA	ACAAGTCTTG
	TGGCTCCACC	CAGAGCAGAG	CTTAACATGC	ACAAGGACCA	TTTTCCACAC	CGCTATGATT	GCATCCCAAC
	CAATCAGCAG	CAACCATTCC	TCTGCCTGCC	AAATTATCCT	TGAAAAATCT	TAGCCTTAGA	ATTTTGGGGG
	AGGCTGATTT	CAGTAATAAC	AAAACCCCGG	TCTCCCATTT	GGCTGGCTCT	GCATGAATTA	AATTCTTTCT
30	CTATTGCACT	TCCCATTATG	ATAAATCACC	TTTATCTGGG	CAGCAAAAAA	AAGGAACCCA	TTGGACAGTT
	ACACTGTTGG	CAGATATATC	TGTGTTCCAA	AATTGGATTT	TGTTTAAATG	AATTATTCTT	GTTTCTTTGA
	TATTTACAAC	TGTCAATGTT	GTGTCTGAAT	TCTCTTTATT	TCTTGTTGAA	AAGAACAATA	TTGTCTACAG
	CAGTACATAC	AGATGGATAG	CTAATTACTC	AACACGGGGG	GATGTGACCA	TCACCGCACT	GTGCAAATGA
	ATGTTACCCA	TTGTCACATT	TTCCCAAACT	ACATAGTGTT	ATATGGTATA	TGACCCAATC	AACGGTGGCA
35	AAGTCCAGAG	AATACACCAT	AGACATCAGG	GACACTTTAA	ACTAATCAGC	CTATAGTCCT	TTTTCAGTAA
	TTTCAAACCC	TGGTGTGCA	TCCAAATCAC	TTGGTAACAT	TAAAAAAAACA	AAAAAATATA	CACGCAACAT
	TCGCTCCCAA	TCCTACTGAA	TCAGAATATT	TTGGGTGGT	TCAGGAACAT	TCAGGAGTTT	TTCAGGGTCC
	AAGGTTTATA	TAAATTGAGG	TCTCTCTTTG	AGAAAAGGAA	CGTAAAAAGCG	TCTTGCTTTT	ATAGATCTTA
	CAAGATAGTA	TTACCATGTA	AACACATTCC	TAGGACCCAG	GCCCTGTGAA	TTTAAAGGTT	TATCTAAGTA
40	ATGGGCCCTG	AAGCTTAATT	TTCATTATCT	TCAGGGCAAA	TTACCTGTGG	GTTAGGGTTT	AGGAATATAT
	CTCTCTGTGT	ATGTTGTGTG	ACATTAGCAT	GTACGCTTGT	GTGGATTTTT	TTTTTTTTTT	TTTTTTTTTT
	TGAGACAGAG	TCTCGCTCTG	TCGCCAGGCT	GGAGTGCAGT	GGCGTGATCT	CTGCTCACTG	CAAACCTCCG
	CTCCAGGGCT	CAAGCGATTG	TTCTGCCTCA	GCTCTTGAG	TAGCTGGGAC	TATAGGCACG	CACCACTATG
	CCCAGCTAAT	TTTGTATTTT	TTAGTAGAGT	TGGGGTTTCG	CCATGTTGGC	CAGGATGGTC	TTGATCTCTT
45	GACCTCGTGA	TCCA`CCCGCG	TCCACCTCCC	AAAGTGCTGG	GATTACAGGC	GTGAGTCACC	ATGCCACGCA
	CTTGTTGGGA	TGT`TTAAGC	TCCCAGGTGA	GTGAATACAA	AACTAGACTCT	TTCCCTTCTG	TGACATCTGT
	ACTGTTTACT	CTATGCATCT	CAATATTTTT	TCTTTTAGTA	TCTTTCCTTT	TTCTCTCTTA	TTACTTCTCT
	TTGTGCTATT	TTTA`CACCTC	CTTTTTTAAA	AAATTTTTTC	CCTTTTATTT	CTATTGACCT	TTAGCCCTCA
	CAATGATTCC	TACA`AGCCCC	ATTTCTGTAA	ATGGGGATTG	AAATAATTGC	TGGACTTTTG	AGAGATAGAT
50	ATATTAAATT	GCA`ACTGGC	AGTAGTGGGG	GCAGTTGATA	CATAACTAGG	TTTTAAAGTC	TAGCCTTCTG
	AGACCACTCA	TTCCATTTGT	GAAAAAGTGAT	TCTACTTCTT	ATTATGAGCC	AAAAATATGCA	TTCAITCACC
	CATGCATTGA	TTTA`TTCATT	CAATAAATAT	TTGTTGGATG	TCCACTCTGT	ATCAGGAATG	TGCTAGGTTT
	TGGGAATACA	GCAATGAACA	AGTAAATTTT	TCCCTACCCC	TAAGGAACCTT	AGAGTT	

[illegible]

5	GGAAAGTGAG	TTTATCTAA	ATAAAATTTC	TAAGAAAGAG	ACTTAACACA	GAGATAAAACA	TAAGCACATT
	TATTGTCAAC	CTTTATAGTG	TTATGTCAAA	TAGGTCTGAC	ATAAGCTTAA	ATAAATATAT	ACTTTAAAAA
	TTATAAAATA	TTTTAAGTTA	TAATTTAAAA	TTCTCAATAA	AACTCAAACA	CAAACCACAC	TGGTATTTCA
	CACAGCTAAT	TTCTAATGCA	GTTTACATAA	ATATTTACAA	CACTTAAACA	ATTTCAAAGA	AAATAACACT
	GTATTCCATA	CATAGCCTGA	TCACAGTAGT	TGTTCTCTCT	TATTTCCCAG	AGTTTTTCTG	CCCCTTTAAA
10	AGAACCTCTG	CTGCTCTGAT	CCTTATCACA	TCTCTGTTTT	GACTGTTGGC	TTTGTGTTGT	CCAGTGTGTC
	GCCAGAACTT	CTCTGAAACT	TTTTTTTCAA	CACATGCTAA	GTTAATGGAA	TGTGAGGAGA	GTTTTGTATC
	TCACACTCCT	CAACGCTAGA	GCAGCTTTGG	CAATTACTGA	CTGAGAATTT	TTCATTGCCA	GTGATCAACT
	GAAAACTGGA	GATCTCTTTG	GAATTGTTAA	ATCTGCTTAT	AAATAAACAT	AAATGCTTGC	TCACACAGGC
	ATTCTCTCTCT	TCCAAGACAC	CCTAACATAC	AGAAGAAAAC	AAATAGGGAA	TAACATTAG	ACATCTTCAT
15	TCGTAAAAAA	TCTACAGAT	GACTCTTTTA	CATGGTGAGT	TTCTATTGTG	AATTTAAAAT	CTTCCATAA
	ATACAAGAAT	TATGTTTACA	TATCATATCT	GACAAACATC	TTTGTAGGAA	TGCAAGAGCA	ATCCATCTT
	CTGTATTCTT	TTCCAAACAA	GACATTCTA	AAATTATACC	TTTGTTGTTT	TGCATTTATG	CTTTTATTAG
	TTCAAAACGT	TTGCCTCAT	GGAAGTTTTT	CATCGTGAA	ACCATATATT	TCTGAAAAAA	TATCTGACAA
	TATACAAACC	TTCCATTGAG	TTTTTACTCT	CCAATTCTAC	CATGTTTTCA	AAAAACAAC	GTAGTAAAAA
20	CACTCAGAAC	TTTTTCTGG	TTAACATCAT	GCCTTGCTAG	GGGACAATAG	TTTCCCTTTT	TGAAATAAAT
	TTAAACAGAA	TGTACATAA	TTTGTTAATA	AACAATGAGG	GGGTAATCTA	GAATAAGTAA	CTTTTACCAT
	ATCATAGTTG	ACAGCATTTA	CAAGTTTTTT	AAGTCCCTAC	CACACTTGTA	TTGAATGAAG	AAGTATGGAA
	GATTATAATA	TATCAATGCA	AAGTAAAAAT	ATCACAATCC	TTAAGAACTC	TTTAAGAAGC	ACTGAATCCC
	ATAGGGATGA	AAGTGATTAA	ATTGTGCATA	GTAACCCCTG	CACAGAGCAT	TCAGTAGGAT	TTGCACCATT
25	AACAACCTCT	CATGCATTTG	CCTGTGGGCA	TTCAACATCT	GTCATTTTTT	TAAGTTATAA	TATTTTATAG
	CATTTTTTTC	CTCTAAACTC	TGGATAATTA	TTATTCATTC	TTATGACAGC	AACTGTGTAA	TCAGCTGTCT
	AAACACTGTG	AAGGGCAAAA	GAAAGAAAGC	CACAAAATAT	TGTGTTTCTG	TGCCAAGATT	TTACAGCGAG
	CAAGGGAGAG	TTAGAAAAGG	AATTCTGAGA	TTTCAGAGTC	TTGGTCTCTT	CACCTTTGCT	TGGAAGAAAA
	TATCCTTTCC	CTTCATTAGC	CAACACTTTC	TTGATCCTGA	GAGTAGGAAA	GGGAACACTG	AGTCTTTTCA
30	GTTGAAGGCT	GTCCTTGCTT	GCTGGACTTT	GATCTATTGA	AGTGGTGATG	GGTGTGCGG	TTTCAGCCAT
	AAAGGCATCT	GGCATAGTAG	GCAAGAAGGG	CCAGAGACCC	GAGGAGAGTT	ATCTGTCTCT	GTAAACCTCA
	GTGTATCCCT	CTACTTCCCC	AGATGCACCT	GTTCGTGTA	ATATAAACAT	GCATGTCATC	AGAACACTTA
	ATATTCTGCA	TACTGATCAT	GACAACAAAA	TGTACCTTCT	AACACAGACA	CTCTCACTAG	GATAGACCAT
	GTAGGAACAT	CGAATTCTAT	TCAGTTAGGA	CAGTGATGAT	GTCTACATAT	TATACCTCTG	TCAAAAACCTA
35	CAGAATATAC	AACAAGCAC	AGAGTGAATT	CTAATGTAGC	CTGTGGACAT	TAATGAATAA	TAATGTATCA
	ATATTGGCCC	ATCAGTTGTA	ACACTAATAT	AAGATGTTAA	TAACAGGGGG	AATTGAAGGG	GTGGTGGGGA
	GATATGTTGG	AACCTTTTGT	GCTTTCTGCT	CAATTTTCTT	GTAACCTTAA	AACCGCACAC	ACAAAAAAG
	TTATTTTAA	TTTTTAAAA	GTATTCAGAG	GGACTTGACC	TTTCAAAATT	CTCTCAAAAGC	AGGTCGGAGT
	AGTTAAGAAC	ACAATTTTAA	GAACCAGACT	GCCAGAGTTT	AACCTCTGGC	TACACCACTT	ACTAGCTTTG
40	AGATTTTCAG	CAATTTACTT	AACTTCTCTG	TCTCATTTTC	TTCATCTGTG	TGATAAGAAA	TAAAGTAACA
	GGCCAGGCCC	AGTGGCTCAC	GCCTGTAATC	CCAGCACTTT	GAGAGGCCAA	GGCGGGTGGA	TCAGGAGTTC
	AAGATCAGCC	TGGCCAACAT	GACGAAAAAA	TACAAAATCT	CTACTAAAAA	TACAAAAAAT	AGCTGGGTGT
	GGTGGCAGGC	ACCTGTAATC	CCAGCTACTC	AGGAGGCTGA	GGCAGGAGAA	TTGCTTGAAC	GCAGGAGGTG
	GAGGTTGCG	TGAGCCAAGA	TCATGCCACT	GCACCTCAGT	CTAGGCAACA	GAATGAGACT	CCATCTCAAA
45	ATTAATAAAA	AAAAGAGTAA	AAAGAAAAGA	TAAGAAATAT	AGTACAGGCC	CCTATGCTCAG	AGTCTCTAGC
	TTAGAAAAAT	TCCCAAGATA	TAATAAGTGC	AATGTAAGGG	TCAGCTATCT	TCATTATTAT	TATCTATCAT
	AAATGAAATT	ACACAATAAA	GCTAGATCCG	TTTCTTTTCT	CTCCTTCTAC	AAAAAATAAA	GCAACTTTCC
	AGAACAATAC	CCAAGTGATG	ATTCTCCCC	TGCTCCCTCC	CTAAGATATT	GGCAAGTTTG	GAGGGTTCAA
	GGAGAAACAG	AGCATGTAGA	GAAGATACCT	CTCTCATAAC	CATTTGTGAT	TTACAAGTCT	TACCTGATTC
50	TTTTGAACTT	AAACGATGTA	AGAAGGCTTT	TGGTAGCTTC	CATCTGATTC	AAGGCTTTGG	CAGCTGCTGT
	GGAATACATG	AGAACACTAG	GTAAGCACT	GCTTCTCAAC	ATGAAGAGAG	AAAAATATGT	GGAATGTTCA
	ATGGCATGCT	TTGTATAAGA	ATGCAACTTA	CCTGGCAGGA	ACAAATTTCT	TTGCTGCAAA	AGAAAAGACA
	AACAACCATT	AATTGAGACT	AAATGACTTT	TAAGGATATA	TTAAATCCAG	ATACAATATG	ACTTAATTCA
	TCAAGTGTTG	CAAACTCGAT	GCTTCAGGGC	CTCTGTAATA	ATCAGAGCAC	AAGCATGGCT	CTGTGGCATC
55	TAGGGTAAAA	TGCAAGTGC	ACAGCCATCC	AAAGGCATA	GCAGCTTCTT	AATGCCAGCA	AATAGCTACG
	GGGTCATCTT	GCCCAATTCA	GCTCCCAATT	TTTCATGAGA	AGTCCAAAGT	CTTAATTTAA	ATGTGAGATT
	TCCTATTTTG	TAAACGTCAG	AACTTAACTC	AAAAATGTTT	TAAGTACTCT	TAAACATGTA	AGCCAAACAA
	ACCATGAGTG	TAGTCAGATG	TGCTTCCATA	TTCTTATAGA	GAGACTCTCA	AAATTAAGCC	TGTACTCCAA
	ATAAATCTCC	TTAGGAAGAA	TTTTATCCAT	TTTCTTAGA	GTGCTCATCA	TGGCAGTTCC	ATTGCACAAT

5	TTAATACAAG TCCACCATTG AACACTGCAC CTCTGTCTCC TCCCCATACA TGATTACTGT CACCTTCACA GAGCGTCCAT TTGATCTTTC CAGAAAAATC CTTAGTTTTC AGTATTTGAC ATTGTCCCTG ACAAGAGGAC TGGACAGCAT ATACGTTTCC CAAAGACTGT GGATCCCTTC GCATAGGAA CAAAATGATG ATTCAAGCAA TCTTTGAATT TGAGCACTGT CATATGGGTC TGTTTTGCAG AAGGCCAGTG TTACTGCTT TAATTATGAG CTTTCGAAT TTTTATCAGC GGCCAAACAT TTAAAGTGGG TCGAAGGATG ACCTGGGCTG CTCCAGCAGG TGTAACAAAT GAAAGAATGT ATTCCAGAT CAGGTTGTGT CAGCATCACA TCCTATTGAG AATTCTTAGG TTTCCACTTT AATAGATTCC GAGCCTGAAG ATACTAAGAC AGATGAGAAA CAGAAACACC TACATTGGCT ATGTAAGTTG ATTACCATT GCTTGGCAGG CTGCAAAACG TCAGTTCTGT TTTTTTTAGT CTTTTATTCA AATATTGAGT CACAGCAAAC GCTTCCAACC TTTAAACCC AATTCGTTGA TAACCACATG	AAGCAGAGAT GCACGCAGAA TTGCTTGCTC TTTTTCCAGT ACTTAATATT AACAAGATAG GGTAGGTAGC CCTTCAGGAC CCGGAAGTGC TACIGGAAAA AGCATGTAGG CTGTACCCTA AGTGTGCAC TTGTAGGTGA CGCATCTCAC CAACGTAACC ACCTCACAT AACACAAAAAC GACAAATTCAT GTCAGAAAT CACITGGAGA TCAGCCCCCT TCTTCTAACA ATGGATGTTT TTTGGTTTTT CCTGATAGTA ATATATGCAT CCAATTTCAGA TTTCTAATAT ACATCACAGT TAGTCTTTTT TATTGGTTTT TCAAGCTTAC TCTCCGCAA GGAATGGCTG ATACGCATTG TCACAGTAAG GAGGTACACT TCCATGGGAA CTCAACCACT CTGGGTGCCT GACATGCACA GCCTATGCTG AGAATAGGAG AACATGATTT TGCTTGACTA TCCATTAGTA CATTTAGAGA CATTTCAAGC GAGAGAACAA AATCAAAAAA GCAGGCTGGA TAACCCCTAT GGCATCTCAT TCAATCTCA TTAAATTTT TAAATATTT AGAAATATGCT GATATGGGGA TTAGGTACCA AGGATGAGAA TAAIGCTGCA AATCAATAA TGGCTCATAG	GTGGCATTAC CTCTAACTTG TCTTGCTCTC TGTCAGAATT CACAACTTGT CTCCCCCTT AGGCCAGACC AGGCGAACTT CAGGCTTGAA CTTCCAAAAAC AAATTAGGAC AAAAAGTCTG TCAAGTTGAG ATTCTCCAAT AGCTGGAACA AAGTTCCCAA GTGGGCTTCT CCTGCTCACA GTAGCCTCGC ATTGCAGTGG ACTGAAGATT CACTGATCAT CACAAAAATA ATAGATGGTG GTGTTATGTT AAAACTGCTT CAATACTATC AGACAGGTGT GATTCCTTTA TAAAAAAAAA AAATGAATCT TTTTTTCACT CTTCACAAAC CATGAAGCCT CACCTCACAG ATATTAGCAC TCTCCATGTG GAAGGCTCTG GCTTCCAGGG GAGGATTTTA AACAGAGTTA GCCAGAATAA AGTGGTCTCT TTATGACTAG TCTTTTTTTG TCATGGTCTT TTTCTAGAGC ATAGAATAAA ATTGTATTAA CAGAAGCAAT ATAGGAGCAC CACAGCTGAT CTCAGGGGAT CCTTTAACAG ATAAAATTT GATCCATAAC GAGTAGTGTA CAACAAATTT CCATTACAAA CTGTCTACTA CATTTAAAT GTACACACTG	AGGCCTTTGA CCAAGCTCGT ACTCCCTCTT CTACCCCTTC CAACCTGGGC TCTTTTTTAA AGTGTCTGT GCACACAGTG CATTTTACCA TTGCTTAAAA CAAAACCCCTT CACTCAATT TGTATCCATG AGGGGAATGA CACGAGAGAG GCTCTTCAAT CGTTGTCCCA GGAGAACTCA TCGGGGTTTG AACTAGAGAG CTTTATAATT GGCACTAATT ATTATGGTCC CCAAAAAGAA TTGCTACTGG GTTTTCAATA TCTGTAGCTG GATGAGAGTT GATTAAGAAT CAGCAAAGAA CAAAGATACG GTCCAAGTTT TGGGATTGCG TCCATCAGGA AGCCATTCTG GGCCTAGAAT GAACAACTCT GGCTCCCATT TTTTGAAAC AAGAGCACCA GGAAGCTGCC AAGCTTTTAT AATCTATGTT TACTGACATA GCCTCTGGTT AAGTTAGTCC TTTATTGTTT AAAACCTCTC AAACAAAAAC GAGGGATGAG TCCATTCTCC AGAGCAGGAA TCCAGGGCTG ATAAGAACAC TAATGGAATT AACAACAACA ATTGTGTTTA CTTGTTACTT AGCTATATTT TAGTAGCCAC TCAGTCTCTC GAAAAACAG CTATGGAACA	GATCTGCTCC ACACCACACC TCCCCTTTCT CATCAACATG GAACCTTCTG TCACCAGACA GGCTCCACAT CCAAACACGG CTGCAAAATG GTCAACAATG TGGGGCAATC TACCTTGGCA TAATTCAAAT GCACACCTCA CACTTTAGAA AGTTCTTTTT TACTTGGCGT CCCTGGACAA AAAAGACTAA AAGGAAAGAT AGAAAAGAAA AAATCATTCT TCCTTGCTCT ACACACTGCT TTACATTCAA TCTGTCTATT TTCATTCTTA AGGGTTGCTC GAAGATTGGT TGTTGCCATT TGAAGTTGCA AGGCTGGCGG TAGCTTGCCC ACCTTTACAC AGTTCAAATC ATTCCACGAA TGAATTTTAC TCAAAGGGT TCTTTTTCAT ATCATTTACG CGTAGGCTAT CAGAAAAGATA CATGGCTTGG TATGGTCTCC TCAACCCAAG AAAAAAGAAA TTACAGAACG AGAGGACATA GAATTGTAGC TACAGTTAC TGGAACCTAG TGTAATAATTG AAAAAGCAGT CCTCAAAACT TTCTCACAAC CAAATTTAAG TATCTGTGTG AGTGTCACCA CTATGGAACA	AAGCCACCTT ACACCACACC TCCCCTTTCT CAACTTCTGT GTTTGGATAT ACCACAGTCA GTCCGAGCTG GCTCCCCACT TAGGTACACA AATGTAAAGT TAGGTTCAGA GGAAGGAACC CCCTCTCAC CCAAACCCCT GTTTGTGTTG ATCTTAAAAAT GGGCCACATT CATAACGGAA GCATCGGAAA TGTTTGAGTG ATGGGAAGAT TTAATCAGAA TTCACGCAGT GCACCCCTAT GTGCTGGCTT CACTTTAAAG TGAAACAGTC ATCATGTTCT CCATGCTAAT ACACATATGA ATCAAATCTG GTTCTTTAAG GCCCTTGAGT GGATGATTTG ACGGCCCTGC ATTTCCAGTA GTTGGCTTCT CTTCTTCACA CCCATTGGCT AGAAGAATGA AGATCCCAAA GGATATTCTA TGAGGTAATA TCATTTATTT AAATTAAGAG AAAAGTTAAA CTTACAAATC CAGGTACTGG CTTCCCTGA TTCTGTGCAT CACTGCATGG TGAAGTTTCC AACTGAAAAA AACTACAGTT ACTGAATTTC GATGACAACC GTTCAAATTA TGCTAAAAAT TACTAGAATA GCTACTCAAA GCCACTTTTC TTCATTAT	TGAAGCTATT TTGGTTAATA CCTCTCCTCT TTTTTCTCTA AATGAATAGT ATCAATGCAT CAGAGCCATT GCAGCTCATG GGCAGAGTTT GTAAGCGCTA AACTTTATGA TCTTCTGTCC AGCTGAAGGC CGGGGGCTGG ATCTCCAGCA AAAATAAAAA GGAGCCTTTT ACTGCCAGAA GCTGAGACAT AACCCAGTTC AGCTGTGTTT CATTAGTTCC CTGAGGACAA AAAAATTTGTC TGGCTAGGAC TGAATTAATA TCATCTGCTC CATTATTCTG GTCTACAAAG TCCTTTCCCT ATTCTATAG AAAGTATAAA GGTGCAATCA AAGGTGAAC ATGTCACAGC TGGGTTGAGA CGTTGTCCCA GTCAAATGTA GGATTGTGCA TCTTTTCACT GTCTATGTG TCTTTTCTGA ATTTAAAAAA TAGCCCATCA AGAAAAAGAG CAGGGAAACA ACCAGAGCCT GTGGCAATA AGTTTTGAAA TCTCAGAGGG TCTCCATGCT CAGTGGGTGA GAAACCCAAA TGGTTTTTTT TACCCCTTTT ATAAAAAAGA TATGAACAAA ACTACAGTAA CATTACAAAT TTTAAACTTG AAGTACTCAA CAGAAAAGCT
---	--	--	--	---	--	---	---

1. <i>Staphylococcus aureus</i> (n = 10) 2. <i>Staphylococcus aureus</i> (n = 10) 3. <i>Staphylococcus aureus</i> (n = 10) 4. <i>Staphylococcus aureus</i> (n = 10) 5. <i>Staphylococcus aureus</i> (n = 10) 6. <i>Staphylococcus aureus</i> (n = 10) 7. <i>Staphylococcus aureus</i> (n = 10) 8. <i>Staphylococcus aureus</i> (n = 10) 9. <i>Staphylococcus aureus</i> (n = 10) 10. <i>Staphylococcus aureus</i> (n = 10)	
1	100
2	100
3	100
4	100
5	100
6	100
7	100
8	100
9	100
10	100
11	100
12	100
13	100
14	100
15	100
16	100
17	100
18	100
19	100
20	100
21	100
22	100
23	100
24	100
25	100
26	100
27	100
28	100
29	100
30	100
31	100
32	100
33	100
34	100
35	100
36	100
37	100
38	100
39	100
40	100
41	100
42	100
43	100
44	100
45	100
46	100
47	100
48	100
49	100
50	100
51	100
52	100
53	100
54	100
55	100
56	100
57	100
58	100
59	100
60	100
61	100
62	100
63	100
64	100
65	100
66	100
67	100
68	100
69	100
70	100
71	100
72	100
73	100
74	100
75	100
76	100
77	100
78	100
79	100
80	100
81	100
82	100
83	100
84	100
85	100
86	100
87	100
88	100
89	100
90	100
91	100
92	100
93	100
94	100
95	100
96	100
97	100
98	100
99	100
100	100

CAAAAAAGAA GAA/AAAAAG AAAAGAAAAG AAAAGAAATT TGTTTCCAAA TGCAACAGAA GGAGATGTAT
 GTGGTATCCT ATATTCCTGC TCTTCATTTT GACATTTCTT CTGGGTGATT GTATACATTC CCCATCTCTG
 CATCTTACCC TATCTAAATG ATGGTAACAG TAAATGGGGA TCATTTTAAT TTCCATATTC TGTAGGTTTT
 CAGAGCTCAA GTC/AGCTAA TATTCTATAT CTACAGCCTT TCAAAATAGG AGGTCTATCT AAAAAATGTAC
 5 TGTCAGCAGA CCT/AAACGAG TAGTGGTAAA AGCCTCGTTT TTCTCTTTAC TTGTTAGCAC TGGTCTTTCT
 GTGTTTCATA AGATGTCAAG ACCCAAAAAA AAAACAAGAA AAGAGAAGAA AAATTCCAAA AAAGACAACT
 GATTAGAAAA AAA/AACTTA ATTAACGAAT TTAATTC AAC CCCTATCAAA AAGCATAGAA TTTATTCCCT
 CCACCTTACC ACTCTCTTAC ATGATCCAGA TACTGACATT ATTCCAATTC TTTATCCCAC TTTACTTAGC
 TCAATGTGGT TGTGTCTTCA ATAAATTCAG AAGAGTAATC ACTCATATAG TGTTTATTTA GATTTTAGGG
 10 CAGAATGTCA AGT/GGGTTA ATACATTATC TGTATGTATT TTATTTTAA TAAAGTATGA ATACATAATC
 TGCTATTTT AAAAAGCATG GTCAAAATGTA TAGAGTAGCC AAATCTTAAA AAACAATTTA TCTTCGATAT
 CAATAAAGTA CCT/ATAATT ATATTGCTAA TAGAAATFAG TCGTTAACAT CCCTAGATAA CTAACCTTAT
 TATTGCGAAT TTTTCATAAC TAAGTTTATA GTTTATCTCT TCCCCTTTT AAAATTAGTT CAAAGATATC
 TAAAAATAGC CCCAGTGGTG ATGAAGTTTC TATTTTACTT ACATATATAT GTCCTGGACC CCCAATTATA
 15 ATCTCTAACA TTTATTGAGT GCTTACTATG TGCCAGGCCA TATTCTGAGC ATTTTGTATG TTCACCTATT
 GATTATTCAA TCCGTACAAC AGCCTATGAA ATAGGTACTC CTATTATCCC CATTTTACAG ATGAGGAAAT
 TGAGAATCTG GGG/TTTTAT CTCATTCAAA AGCACAGAGC TAAGGGTTGA AACCAGGCAG TTGATATCCA
 GAGCCCACTC CCT/ACCTGC TACTCCAAAC CATGATTTCT TTTGTTGTTA TGCCCCGAGA TTCCTTGTTT
 TACCCAAGTT TCTGTACTC TTCTTGCCCT CTCTCTCTG AGACATCCTT GACCATCACA GCTCTCCACT
 20 GAGATAACTG TGTCTGGGT TCTGAGACTT GGGGCTGGA AGGGACCCCA GGGACAGTGA GCGATTGGGA
 GAGGATGCAG TGAC/AACAGA CCCTGGATCC CCGGTGCATA GGCAGGGAGA AAGTGGACAA AGGAAAAAAC
 AAGCAAGGCA GGTGGAGCCA TGCCTAGGTA AAGTTGATCC CTAAGCCACA GTTCCCAGAA GTTCTGATT
 CAAAAGCAAA TTT/CTCTAA GGTCAAAGGG CAACTGATT ATTCTAAATT CTAACTGAT TATTTCTAAA
 TTGAGAAAGC TTCAGGGAGA GATCCCAATA TTCGAAGGAT AAGAGAAATG AGGAGTGGAA GAGATAGGTG
 25 AGTAACAGTA ACT/AAATGT AGACTATATA TAATATATA TATATGTAGA GTATATATAT ATAATTACAA
 TATATTATAT ATG/GGAATA TATATATTAT TTATATATAT TTATATATTT TATATATATA GATATTTTAA
 TATTTTATAT ATAAATATAG ATATTTTAT ATTTTATATA TAAATATAGA TATTTTATA TATTTTATAT
 ATAAATATAT GTAAATAACT GTGAAAGAAG AATAGAATCT TGAGACCTCA AATTCACAT GCCAAAGGGA
 AAGTTAAGCT TGG/AAATGA GTCATGCAAA AACTGCCTTC CTTTGTTC CAAATACCTG TAATTCACA
 30 TGCTTACTTT ATCTTATATA AAATGTAGAT GTACTGAGCA TGAGATCCAT GCATAATTTT CCTCTAGTCC
 CTCTTTTAA CATG/AAAAGT GTAGACTCAC TGAGTGTAC AGAGCCTTGC CACAATGTAA ACATTGTCT
 CATTGCCAAC CCA/CTTTTCG TTTATTTTCT TCCCCTCTG CTGTCTCTT CCCCTCTAAA GATGGAAGTT
 CCAAAACTC TCTTGGAAA AAGCGCAGGT CACAGATCCT ACAGTGATTI GTGTTTCTTT TACCTGGGAC
 AAAATAAACC TCT/ATCTGT TGAGATATCT TTCAGTTACT TTTTGGTTT CAATATGTAT ATGTATGTAT
 35 ATAATTATA TGTATATAAT ATATGTACTT GTTTTAAACA GAGGTATGTT ATTCAAAATC CATTCTCCT
 TACAATTACC TGC/TTCTCC CACAGTATTT TCTGTGTCCC TGCCCCGAG GTTGTCCTG CAAATCAGGT
 ACATGGATAC TGG/AGCTGA TGGGCTCCCC TCTGGCTACC TGGGCTGCTG AAGGGGCCAT AGACAGACCC
 AGCTTCTCTC TCGTGGAGAG GCCCTGGGCC AGCGTGTGCT GGGAGTGGGA TTACAACCAG ACTATAGCTT
 CTTCACCTGC TTTTICCTAT CAGGATTTCA TAAGAGGCAA TTGCTTGTTT TTTGAGGGTG GGGGCAATC
 40 AGGGGGAGTT GAA/GAGGAAA TTGGGTAAGA TTTGAATAGT TGGGCATGTT GAATATTATG AATATCATCT
 CCCTCTTCAA ATAATCCAAA ATATACCCCT AAGAAACAGG CTGATTAGAG GTGCTTCAAG GCTCCACTGA
 ATCTCCCAAG CTCTGAAGAT GTAGCTAGCT GTTACCGGAT TGCCGGTTTT CAAGCCTCGC CTCACATGGA
 CCCTCTTGGC AGTT/CTCGC ATGGGGGAAG CATCCGCTAC ATAGATGGGA ATGAAAAGAG GAAAGAAGAC
 GGTGCAAACT CAGGCACACC CCGGTGTCTG CCACCAGTGC TATTTAATCT CTGAGGTGTC ACCCTTCTG
 45 GCTTTATTGT CTCTICCTGG AAGTCTCTG TCCTCTCTC CACACCCTT AATCAGGCAT CAAAGACTTT
 AACCAGTTTT GCTGTGTGCC CAGGCCACT CATCTCACT TTTATGGCAA AGGGAGTGGG AGACAGAGAG
 ATAGCCAGAA AGA/GAGATT GGGGACCCCA AGACAAATGT TAGAATTTT ACCAAGGCCA CCCTGTGGAC
 AGGAGATTAT TGG/TTTAGT GGAAAGCAGC ACTGGCCACA ACCACACGTG GCAAAAGCAT CTATCGAGGA
 GTGAAGTTAT ATTTGGTGAA TGTGACCGGG AAGCAGGGGC AGTGGTGTCC TCCTGCCTT CTGAGGCACT
 50 CTGTCCCTT ACCTCTGCGA AGGCTTATT TACCCTGAG TGCTTAGTTT TGAAAGCCTT AGTTCCCTCT
 CTCCATAAAA AAAGCTCTAC TCTGCTAACA TCTAAGTTAC CTTTGCAGAG TCTTAGGTAG AGGGAGGAAA
 TCCAATAAAA GAT/CCACCC TATCTGCAAA ATACAAACAT GGTATTTCTT GCATTCCCAA AATTGTGAAA
 GAAAATGTGT ATCA/CACAG TAGAGAATGG CATTTTTTGT TTGATCAAAA CCTAAATATA TTTGATGAAA
 ATGTGTCTGG TTCTAAGTTT ATTTCCCAGA AAGCCATGTT TACTCACTG GAATTTATAG ACATCTTATA
 55 ATATCTGAGT CGAC/TAGGAG CTCCGGGCTC TACCTCACTC TTTTCTCCA CACCCAGGGG GAAGTGAGG
 GTTCTCAGAC TTTAGAATAA AGAGGAATCA CCTGGACAAC TCACCTAAAA TGCACATCT CAGGTCTCAT
 ACTCAGAGGC TCT/ACTCAA CAGGTCTGGG TGGCGCCCAA GAATTTGGGC TTTAAATGAG TATCTCAGAT
 GATTCTAATA CAG/ATGTGT AAGATGACCA GCTCTATCA CACTTAGATG TATTGGCTTA TATGGCCCTA
 ACTTGAGAA AAT/TTAGTA AGACCCCGTG GTTGGTGTCT AGCTATAGGT ACCAGAATTT TGATCAAAAT
 60 TTAATATCAT TGTGACACTT CTCTTCGGAA CTGGAAGGCC AGAACCCAC TTGTAAAGTG CTGGGAAAAAT
 ACAAGGAAAA TTT/AGGGTGA GTAGCATTTT GAATCTTAC ACATGGAAAG TAAATGTATA AGAATTCTTA
 CCAATAAAAA AAA/AGCAAGA GAGAATAGCT GCTAAAGAAT TAACACAAAT ATGTATATAT TAGTTATTCT

004040 " 049456

General Information	
1. Name of the Project	Project Alpha
2. Date of Submission	15/10/2023
3. Author(s)	John Doe
4. Institution	ABC University
5. Supervisor	Dr. Jane Smith
6. Title of the Project	Analysis of the Impact of Climate Change on Global Agriculture
7. Abstract	This project aims to investigate the effects of rising temperatures and changing precipitation patterns on crop yields across different regions. The study uses a combination of climate data and agricultural output statistics to identify trends and potential future risks.
8. Introduction	The world's population is projected to reach nearly 10 billion by 2050, with a corresponding increase in demand for food. Climate change, driven by human activities, is expected to significantly alter the global climate system, affecting the availability and quality of agricultural resources.
9. Objectives	The primary objective of this study is to assess the impact of climate change on global agricultural production. Specific goals include: <ul style="list-style-type: none"> Identifying the most vulnerable crops and regions. Quantifying the projected changes in crop yields under different climate scenarios. Evaluating the potential for adaptation strategies to mitigate negative impacts.
10. Methodology	The research methodology involves a multi-step process: <ul style="list-style-type: none"> Data Collection: Gathering historical climate data (temperature, precipitation) and agricultural production statistics from various international sources. Modeling: Utilizing climate models to project future climate conditions based on different greenhouse gas emission scenarios. Analysis: Applying statistical techniques to analyze the relationship between climate variables and crop yields. Validation: Comparing model results with historical data to ensure accuracy.
11. Results	Initial findings indicate a significant correlation between increasing temperatures and a decline in crop yields, particularly for staple crops like wheat and rice. The analysis also shows that regions with already high temperatures are more susceptible to further climate-related stress.
12. Conclusion	The study concludes that climate change poses a serious threat to global food security. Urgent action is required to implement effective adaptation and mitigation strategies to ensure sustainable agricultural production in the future.
13. References	A list of academic papers, books, and reports used in the research, including works by Smith et al. (2018) and Jones (2020).
14. Appendix	Additional data, charts, and supplementary information supporting the main findings of the project.



5	GAAAGCATGC	ACACTGTTCT	TGCTACATTA	ATTTCTCACA	ATATAAAAAA	AGAAAAGCAT	CTGAAAAAAG
	CTGCCAGCCG	CTG1GTCTCC	TAATATCAAA	CTGAGCACAG	ATATGGAGAA	GCTAAGGGAG	AGGGATGATG
	GGCCATGCCT	CTAACTCAT	CATGGCAAAA	GTCCTGGGGG	TCAGACCCGA	GGAGAGCAGG	AAGTGTCTTT
	TGAGGGATAC	ATTCCACAG	TGGAAATAAT	GAGACTTAAA	TAAATATTAT	ATACACAGTT	CAACTGTTTT
	TATGTGTAAG	GGTAGTAGGT	TTTCACAGTA	AGGAAGCACT	TCTTTTTTTT	TTTGTTTGAG	ACAGAGTCTC
10	GCTCTGTCTC	CCACCTGGA	GTACAGTGGT	GCTATCTCGG	CTCACTGCAA	TCTCTGCCTC	CTGGATTCAA
	GTGATTCTCC	TGCCTCAGCC	TCCCGAGTAG	CTGGGACAAC	AGGTGTGTGC	CATTACACCT	GGCTAATTTT
	TGTATTTTTA	GCACAGATGC	GGTTTACCA	TGTTGGCCAG	GCTGATCTCG	AACCTCTGAC	CTCAGGTGTT
	CTGCCCGCCT	CTGCTCCCA	ATGTGCTGGG	ATTACAGGCA	TGAGCCACTG	CACCTACCAA	GCACCTCTAC
	TGATAGCATT	TACAACCCCT	TCTTAGAATA	TTTAAAAATT	CTAAGAGAAG	AGTAAATTGA	GCCTTCCCAA
15	CTAATACTAG	GAGCTTATAA	CCTTCATACC	AAAAGTGGAC	AATGCTTGCA	CAAAAGAAGG	AAGCCAATGA
	GGCCACCTAG	AAGGAAGACT	GGGCATTGGG	CCCAGTGAGT	CCTGGAAACC	TCATCTGTGC	CAGCCACCCC
	GGCATGGCCT	GTAAGAGTGG	ATGAGGGTGA	CTGTGCCACA	GACAATAGCC	ATCTAGCTGT	GATAAAGGAG
	TCAAGGTAGT	CAGCTGCATC	TCTTTCACCT	GTTTGCCAA	GTTACACAGG	TTGAAAAGCT	AAGGTTTATG
	TAAAGCAAGC	ATCAAGATG	ATGAAATGAT	CAACCTGACA	ATGAGTACTA	TGCTGCATTG	TCCAGAAAGT
20	AACTGTGGAA	GATTTGGGC	TGAATTTCAA	AACAGAAATT	CCTCACTCTC	TGGATGTTGG	CTTACTTGGC
	CTTTGATGTT	CAGAGGTGGT	GCCTTTGTGT	TGTTGAACAA	TGTTGATTTT	GGAGAGAAAA	CAGATTGTA
	AAACCCACAA	GCTATCCCT	GGGGAGTATT	ACCGGAATAC	AGAGGATAAT	TTCAGCAAGC	CAGCAAGGCC
	TCATCTCTGC	TTCTAATAGA	TAGGAAGAAA	GGAAGAGAGG	AACAATACTT	TTTAAAGAAG	CTCAGCTTTA
	TCGCCTTATC	TCATAGAAAG	ATGCCTCCAG	TCTGTCTGGC	TAAAGGTAAT	TGGCATGGGA	AAGTCTTTAT
25	CTGTGATTCT	AACAAGTGGA	ATGTTCCCT	TCATTAAGAG	AGCCTTGCT	GGCTTGGGGA	AATGAAACAC
	TTTCTCCGAT	ATGAGTGGGC	TGTAACCCCT	GCTACTAAAT	ACTCAGAAGA	AATAAGGCGG	TTGTGGAGCA
	GTCAAGATG	AGTCACTTGC	CTCCCTGGAA	TATTCAGAAA	ACTGAATCAA	AAGTCAATTC	TTCTGGGTTT
	TCTTAGTCTA	ATAGACTAAG	GGTCTCTACT	TTGTTAAATT	TCTGGGAAAC	AGCATAGAAAT	GGGAGAAAAA
	ACTGGTCACT	GTACTCATGC	AAATCTGCAA	AACAAACAAA	AAAGTCTGGG	TATTGCTGCT	AAGTACTGAT
30	GTGACCTTAA	GCAAGGTATT	AACCTCTCT	GAATTCAGG	TTCTTCATCT	GTAAATAGC	ATATCTGTAA
	AATGGGAATT	ATTTTCATAT	CATAATGCTG	TAGCTTTAAA	AAATAAAATA	AAATGGATGA	GATAATCAGA
	ATTAAAGAGC	CTGGGATATA	TAGTTAATAT	ATAGCAGCAT	GTAAAGATCC	TGTTAGAAAT	GCTAATTTTA
	CAGTTAACCA	TTTGAGATG	ATCCGCCAAA	GCTGCTAGTG	TAGAGGCAAC	TGAGAATTTG	CCTGTCCTTC
	AGAATATGAA	TAAATAACTG	TCAATGATGT	CTCAAGCCTA	GAAAAACCTA	TCCATCTGGA	TGGGTGGGAA
35	ATTTCTAGGC	TAGATTGAG	AAGCCCAATT	CTTGGGAAAT	AGGCTCTGGA	CTGAGTGAAG	GAAAAAGAAC
	AGTAAAACCC	ATGCTAAAGC	AGCAAGGCTC	TCTAGAGGCT	CTGGAGAGGA	TGAATTGAAT	TCTAGAAGAT
	GAAGTAGGGA	AGACGCTTTA	CCTTCTTGTC	AAATGGATT	AAAGATTCAA	AGACCTTCGG	GAATCTCCAA
	TTGTATAAAT	GGCACCATAG	CTGTATGTT	CATGGAACAC	TACTTCCCAG	AGATGCCAG	TGAAAAAAGA
	ATGCCACAGT	CAATAAGTT	TGGAAACACT	CCATTATGTG	GCCACCTCCT	TGAAGACTCT	AATGCACATT
40	AGCATGTTAA	ACACTCTTGA	GAAGTCCTGC	AGAGCAGAAA	TTGCTTCACA	TCTGCTAAGC	CGGCAGTTTC
	CCAATATACT	TGATATGGA	TAGTTTTTTC	CTTACAACAC	CATTCTCTGA	TATGCTTCCA	ATGACATGAA
	ATAAATATAT	ATGCATGAGG	TTCTTCATTA	GGGCATCACT	TTTAATAGAA	AATATTGAGA	ATAATCTAAA
	TATAAATGCA	CAGCATTTAC	CTTTCTGCA	TAAACTATAT	ACAGGCATAC	CTTGGAGATA	CTATGGGTTT
	GGTTCCCA	ATACTCCAA	AACCACATTC	GGTTTTATGA	CCACTGCCAT	AAAACCAGCC	ACATGAATTT
45	TTTGGTTTCC	CAATGTATAT	CAAAGTTACA	TTTTTACTAT	ACCATAGTCT	ATTATATATA	CAATAGCATT
	ATATCTAAAA	AACAACGTAA	ACACCTTAAT	TTAAGGCTGT	GGCTGGTTTG	ATTTTCTACC	CAGACCACTA
	AAACTTTCTT	CATCTCAGCA	ATAAGGCTGT	TTCACTTTCT	TACTATTTT	TGTGATAGCA	CTTTTCTTTT
	CCTTCAAGAA	TTTTTCCTTT	CTATTCACAA	TTTGTTTGAT	ACAAGAGGAC	TAGATTTTAG	CTTATCTCAG
	TTTAAAGTGT	TTACATTGTT	AGCTAAAAAT	GCTAATGATC	ATCTGAGACT	TCAGCAAGTC	ATAATCTTTT
50	GCTGGTGGAA	GGTCTTGCT	CAGTGTGAT	GCTGCTGAC	TGGGTGGCCT	TGGCAATTT	TTAAAGTAAG
	ACAACAATCA	AGTTGACAT	ATCAATTGAC	CCTTCTGTC	ATAAATGATT	TTTTTTTTCT	CTTAGAGCTG
	CAATGCTCTT	TGATAGCATT	TTACCCACAG	TAGAATTTTC	AAAATTGGAG	TCAATCCTTT	CAAACCTCTG
	TGCTGTTTTA	TCAACTAAGT	TTATGGAGTA	TTAGAAATCC	CTTGTGTGCA	TTTCAACAAT	GTTACACCA
	TCTTCCCAG	GAGTATATTC	TACCTCAAGA	AACCACCTTC	TTTGCTCATC	TATAAGAAGC	AGCTCCTCAT
55	CCACTAAAGT	TTTATCTGTA	GATTGCAACA	ATTCAGTTAC	ATCTTCAGGC	TCTACTTCTA	ATTCTAGTTC
	TCTTGCTGTT	TCTATCTCAT	TTGTGCTTAT	TTTCTCCGCT	GAAGTCTTGA	ACCCCTTAAA	GTCACTCATG
	AGGGTGTGAA	TCAACTCTTT	ACAAACTCTT	GTTGATGTTG	ATATTTTGAC	CTGCTCCCAT	GATTCATGGG
	TATTCTTAAT	GGCATCTAGA	ATGGTGAACG	TTTTCAGAAG	GTTTTTCAGT	GGCTTTGCC	GGATCCATCA
	GACGAATCCC	TATCTATGGA	AGCTATAGAT	TTATAAAATG	TATTTCTTTT		

[illegible]


```

set.seed(1234)
n = 1000
n1 = 500
n2 = 500
n3 = 500
n4 = 500
n5 = 500
n6 = 500
n7 = 500
n8 = 500
n9 = 500
n10 = 500
n11 = 500
n12 = 500
n13 = 500
n14 = 500
n15 = 500
n16 = 500
n17 = 500
n18 = 500
n19 = 500
n20 = 500
n21 = 500
n22 = 500
n23 = 500
n24 = 500
n25 = 500
n26 = 500
n27 = 500
n28 = 500
n29 = 500
n30 = 500
n31 = 500
n32 = 500
n33 = 500
n34 = 500
n35 = 500
n36 = 500
n37 = 500
n38 = 500
n39 = 500
n40 = 500
n41 = 500
n42 = 500
n43 = 500
n44 = 500
n45 = 500
n46 = 500
n47 = 500
n48 = 500
n49 = 500
n50 = 500
n51 = 500
n52 = 500
n53 = 500
n54 = 500
n55 = 500
n56 = 500
n57 = 500
n58 = 500
n59 = 500
n60 = 500
n61 = 500
n62 = 500
n63 = 500
n64 = 500
n65 = 500
n66 = 500
n67 = 500
n68 = 500
n69 = 500
n70 = 500
n71 = 500
n72 = 500
n73 = 500
n74 = 500
n75 = 500
n76 = 500
n77 = 500
n78 = 500
n79 = 500
n80 = 500
n81 = 500
n82 = 500
n83 = 500
n84 = 500
n85 = 500
n86 = 500
n87 = 500
n88 = 500
n89 = 500
n90 = 500
n91 = 500
n92 = 500
n93 = 500
n94 = 500
n95 = 500
n96 = 500
n97 = 500
n98 = 500
n99 = 500
n100 = 500

```


[illegible][illegible]

1. General Information	
Item	Value
1.1. Name of the Project	Project A
1.2. Date of Submission	2023-10-27
1.3. Version	1.0.0
1.4. Author	John Doe
1.5. Contact Information	john.doe@example.com
1.6. Project Description	A comprehensive report on the current state of the project and future plans.
1.7. Objectives	<ul style="list-style-type: none"> 1.7.1. Analyze the current market trends. 1.7.2. Develop a strategic plan for the next quarter. 1.7.3. Implement new features to improve user experience.
1.8. Scope	The project will cover the development of a new web application and the integration of existing systems.
1.9. Budget	The total budget for the project is \$100,000.
1.10. Risk Assessment	<ul style="list-style-type: none"> 1.10.1. High risk: Lack of resources. 1.10.2. Medium risk: Changing requirements. 1.10.3. Low risk: Technical challenges.
1.11. Conclusion	The project is well-planned and has a clear path forward. It is expected to be completed within the budget and timeline.
1.12. Appendix	<ul style="list-style-type: none"> 1.12.1. Detailed project plan. 1.12.2. Financial statements. 1.12.3. Technical specifications.
1.13. References	<ul style="list-style-type: none"> 1.13.1. Industry reports and market analysis. 1.13.2. Academic papers on project management. 1.13.3. Internal company documents.
1.14. Signatures	<ul style="list-style-type: none"> 1.14.1. Project Manager: John Doe 1.14.2. Sponsor: Jane Smith 1.14.3. Stakeholder: Bob Johnson
1.15. Approval	<ul style="list-style-type: none"> 1.15.1. Approved by: [Signature] 1.15.2. Date: 2023-10-27
1.16. Distribution	<ul style="list-style-type: none"> 1.16.1. Internal: All project team members. 1.16.2. External: Key stakeholders and clients.
1.17. Feedback	<ul style="list-style-type: none"> 1.17.1. Comments: [Feedback text] 1.17.2. Action Items: [List of actions]
1.18. Final Remarks	The project is a success and we look forward to the next phase.
1.19. Contact	For more information, please contact the project manager.
1.20. Footer	Project A Confidential Page 1 of 1

AGTGATGCAA TCTTGGCTCA CTACAACCTC CATCTTTCAG GTTCAAGTGA TTCTGCCACC TCAGCCTCCC
 AAGTACCTGG GATACAGGT GCCCGCCACC ACACCCAGCT ATTTTGTGT ATTTTATAGTA GAGACGTAGT
 TTCACCATGT TGGCCAGGCT GGTCTCATTG CTGACCTTGA GTGATCCACC TGCCTTGGCC TCCCAAAGTG
 CTGGGATTAC AGGCATGGGT CATCACATGT GGCCTGAAGC ATGACTGTTG CTTTAATCAT ATGAAATACT
 5 GCTCTGTATT GTTATCTATT TGAAATGCCA CACCTCCTGA GCTAAATTGC AAGCTTTTAT GGAGCACAAA
 CCATATTTAT ATATATTAGC ATGATACCAT GACACATATC AAAAGCTGTT ATATATTGTT ACGTGAATTG
 ATTCTTCTC AGTTAAGAGG ACCTCTGTAG TAGCACTTTC ATACCGTTAA TTTTTCATTT TGTGCCCAGC
 CCCTACTCTG TGA/AAATGA AATGAATCCT GTTATCATT CCCTCCAGG CCTTTTCTCC TTGTGGACAA
 TGTGTGGCTC AAGAGAAAAT TCAGTCAGTA AATTTGTTCA GTGCACAAAC TCTTTATCAC CTCTCACTGT
 10 TCTCAAGTGA GATAGAACAG AACATCCATC CAGTGTCTTA CAAATTGTCT GGTATATAGT AGGCACTCAA
 TAAATGTTT TTGAATAAAT GCATACATGA ATCCTATTCC TATATATAGT ATGGTAGACA GATCATTTGAT
 ACCCAAAGAT GCCCAAAATGC TGATCCCCAG AACTTGTGAA TATGTTACAT TTCATGTCAA AAGGGACTTT
 GCTAATGTGA TTAAGGATTC AGACCCTTGG ATTGTAAGAT TATCCCGGAT TAACCAGGGC CAATCTAATC
 ACATGAGACC TTA/AAAAGC AGAAAACATT TCCCAGCTGG GTTAGAGAGA GATGAGACAG AGTAAAAAGG
 15 AAAGAGATTC AGGCATGAA AATGACTCTA CCCACTGTTG CTGGCTTTGA AGATAGAGGA ACTAGGCCAC
 AAAACAAGGA GTAAGAGTGG CCTTAAGAAA TAGGAAAAAG CCCTCATCTG ACAGCCAGCT AGAAAGCAGT
 CCTCTGACCA CAACAAATTG GATTCTGCCA ACCACTCAAA TGAGCAAGGA AATGGATTCT CCCCTAGAAC
 CTCCAGAAAG GAAACACAGCT CTGTAATGCC TTGATTTTAT CCAGGTGAGA CCTGTTTCAG ACTTTTGACC
 TATGGAATA TAAGATAATA AAGTTTTATT GTATGCTGCT AAATTGCGG TAGTTTATTA CTGAAGCAAT
 20 GGAAAGCCAA TACAGACAGA ATATACAGAG AGAAAGAGAA TGAGTTCTTT CCTGATAAAT TGTAATATT
 TGGGTCTTCA CTGCACAAGC TTCACAGAGG ATTCACTGGT TCCCTAGCAA ACCAGCATGT CCAGTCTGTC
 AGCCTCCCTT TCTTAGGCCC AGCATATGTC AGCTGTGTGC ATAGAAAAAT CAAAGCAGGA CCCTGAGTAG
 TTGGAAAGAA AAGATGGTTG GAAATGGGTT GCACTTCAAG TGAGGAAACA AGAGGTAGGA GACCGGCATC
 TCTTCTCAT ATGTCCCAGG CTGACTCTTG TGAGTTGTTT TCCCTTGGAG GCTATCGATG ACAGTCACAG
 25 TAACCTGATG GAACCTGGAT CATGATGAAA GAAGTAAGTG TCAATGGCTC CGACTTCCAA GGACTCTGAT
 GTCCACAGC ACTAGCTAAA CAAAGCCAGT TGGAAATGAG CTAAATGGG GAATTTCTG AATATATTCC
 CTATTGTTAG GAAACAGGTT TGGCTTCCT GCCTACAATT ATGCCAAGCA GTCACACTAT AGAGTCCCTA
 GGGACATGAT ATTAGTGAT TCTTTAACA CAAACAACCT AATAATCATT TATACTAATA GCAAAACGGC
 CAACGGCTGA TATCCACTT GAAGTAGAAT TGGCTATCCA ACTGGAAGAG AAGACAGGAA GACGTGATCT
 30 CCAGGGAGCC ACTAAAAGGA TTGGCACCTG CCTCTGGATT CCCCTTTTCC TTATATTACC TCTCAGCACT
 GGCAGGCCTT TATTCAGGA TACAGTTTCA CAAGTATTAT GTCACGTCTC TGAGAATTAT GTTGGTAGAT
 ATTTGCTCCT CTGGCCAGAA AGACCTAGTT TGGAGTCTGG AGTCATGAAG GTGACATACA TGTAGCTAGT
 GACATAAGTG TAGCTAGTAA AAATAGTGAG TAATGGCCCT GAAATTCTAT TGAATGCCCA AAGTGCTGAC
 CAGGAACAAG TAGCTCTAG CTTATCTCAC AAGGAACTTG ACAATTTTCT TCAAAAATCC TAGTAGCTAA
 35 GATTTCTTAG TAACAAGCC ACTAAGGCAC AATTATGATT AACTTGACCC TTAGGTGACT TTAAGGACT
 ATTCTATAAA ATATTACAAC TAATAGTGGA TCCAAGCCAG CACACTCTGC TATATAAGAT TAATTGACAG
 TGTCCACACT GGT/AAATAA GTTGTTCAT AAATACATTA GAATTCATTT GCACTTTCTA CACAGCCCCA
 AGTCCAGAAC TTTCCCAGA ATAGGTCTAT GTTTTGCAAT CTGCTACTCC ATACAGAGAT TTGAGTTCAC
 TTGGCAATTT AGTCTGCTT ATATGTGACC AGTTAGTCTG TTTACTTAT CTATGCCTTA AACATTACTA
 40 TACTTACTAA CTCCAAGATG CCTGGTCTCA ACTTGACAAA AATACCCCAA GTTGGGAAAT CCTTATGTGA
 ATATGTAGAT AGTACAATT GCTGGTTGAT GATGATCTGT CTTTCTCTGT ATTTGAGAAA ATGGAGATAA
 AATGGACCAA TCC/ATAAAT GGATTAACA GATGAATAGG TGAGAGAGAG AGAGGAATAC ATGGTGGCTC
 TCAGTGTCTG GCTTAGGCAG TAAACACTTT CGTTAATAAA GACGGAAAAA AAAAAAGGAA TAAGTTGTGT
 CTAGGGGAAA ATAATGAGCT CAAGTTTAA CACTCTGAGT TCCCGGATGT GAGACATCCA GGCATTTA
 45 TCCAAGAGGC AGTGGGAAGC AACGTTCGG AGCTTAGGAG AGAGGCATGA CCAAAAGCTG GTGGGACTGT
 GAAAAGGTAT GGCAATTCTG GAAAACTGTT TGGCAGTTTC TTAGAAAATT AAACATGTAC TAACAACCCA
 GCAATTGTAC TCTTGAGCAT TTGTCCCAGA TAAATGAAAA AAAAAAAAAG CATTTTTTTT ACACAAAAAC
 ATATACATGA AAGTCATAG AAGTGTTATT CATAAAAAAC TGGAAAAAAC TGAGATGTCT TTATTGAGTG
 AATGCTTAGG CAA/CGGTGG TCTATCCATA CAATGGAATT ATGCTTAGCA ATAAAGAGAA AAGAACTATT
 50 GATACATGCA ATA/CACAGA TGAATCTCAA AGGAATTAAT GCTGAGTGGG AAAAAAGCA CATCTCAAAA
 TGGTATATAC TGTAATAATT TATTTACTTA ACATTTTAAA AATAGCAAAA TCATAGAGAT GGAGAACAGA
 TTAATGGGTA CTGTGTTTGG GGATGGGGAG TGAGAAAAGG GTAAGGTGTA AATATAAAGG GGTAGCACAA
 AAGAGCCTTG TGGTGAAGG ATTCTATGTC TTGGTTGTAG TCGTGATTGC AGGAATCTAC ATGTGATAAA
 ATTGTATGGG TCTACATACG CATAACACA AGAGCATATA AAAGTGGTGA CATGTGAAGA AGCTCCGCAC
 55 ATGTGTCCAA CATAGTATC CTAGTTTCAA TATCAGACTA CAGTTATACA AAACATTGTC ATTGAGGGAA
 ACTGGGTAAA GGAACACAG GACATTTGGC ATATATTTTT GCAATTTCTT GTGAATCCGT AATTATTTAA
 AAATAACAGA TATCTACAT ATCAAAAATT TAATGTCATA AAGTTGATGA GTTTACCTAG TGGATAGCTT
 GTTAAATATC TGCTATAAGA CTACTGAAAA TGACAGTTAT GCAAGTATAA GCTCAGAGAA CTTCCTCC
 CCTTCGTAAA TGAAATGAGC AAAAGAAATG AAACAGGAAA GCGAAGCAGT ACTGAAAAACA GGAAGGGCT
 60 CTTCCCATTA TAACATATC TGCAGCTTCA ACAGCTATTC ATCCAGAAAC ACAGCCTCTT GCGCTAAGAG
 GAAACTTTGG ATA/CAATAT GTTTTCACTC TCCAAGAGAG AAAATGGATA GATTAATTTT TAAGAAAAAA
 AAAAAACCT CACCAATTTT ATGCTGTGGC TTGCACCTTT AATCCAGCT ACCTACAAGG CTGAGGTGAG

004040 "04040" 04040



5	AGGCTTACTT	GAGCCAGGA	GTTCAAGGCT	GCAATGAGCT	ATGATTGATT	GTGCTATCGC	ACTCCAACCT
	GGAGTACTAA	GCTAAGAGCT	AAGAACACAG	CTGAGAGCGG	AGAAGAAACA	AACAAATCTG	ACCAATAACC
	CCCCTCCCC	TCATTTTACT	GGAGTGAGCT	GAGACTGCTG	GCAAACATGG	CCTTTGACCT	AGCCTGAACT
	GTAGCAAAAG	TCATCAGATA	TTTTTCCACC	AATCAACAGA	CAGAAGTGGG	GAGAAAACAA	TCGTAGTTCA
	TAACACAAC	AAGCAGATAA	ACGAAGGCCA	TGGTGAGGGA	TGGAAGACAT	TGTGATATAT	CAAAGGCAGG
10	CTCATTTAAA	ACTCAACCCA	AAATCCAAAC	AAAAATATA	ATTGAATATG	TATTAATGCC	AAAGGAGCTT
	GAGTGAGCTT	TAGCAACAAC	CCCCCCTCC	AGCCCCACC	CAAAAAATC	ACTCTGTTCT	GTCCCCATTC
	TTGTATAGGC	ATACCTTGCTG	TTTTCTCACA	GCCAAGGTAC	AGAGGGGACT	TAGAGGAACT	AGAACTCTAA
	TACACTGCTA	GCACGAATGT	AAAATGAAGC	ATCTACTTCA	GAAAACCATT	TTATCAGTTT	CTAGAAAAGT
	AAACATAGAC	CCACCATGCA	GCCCAGCCAC	TCTACTCCTA	AGTATTTACA	CAAGAGAAAT	GAAAAACGTG
15	CCCCACACAG	TTGTATTTAA	AGGTGATGGT	TAGCCTTGTTG	TGTCAACTTG	GCTAGGCTAT	AATACCCAG
	TACTGAATCA	AATAGTAATC	TAGGTGCATC	TGTGAAGGTA	TTTTGTAGAT	GTGGTTAACA	GCTACAATCT
	GTTGACTTCA	AGTAAGGAG	ATTGCTCTTG	ATAGTATGGG	TGGGCTTCAT	CCAATCAATT	GAAGGCCTTA
	AGAGCAAAAA	GTAAGGTTTC	CCGGAGAGAA	AGAAATCTG	CCTCAAGACT	GCAGCCTCAA	CTCCTGCCTG
	AGTTTCCAGT	CAGCAGCCCA	GCCTAAAGAT	TTGCTAGGCA	TTATAATCAC	ATCAGCTAAT	TTCTTAAAT
20	AAACCTCTTT	ATATATATTG	ATACAATGAA	TGGTTATAGC	AGCCTTATTT	GTAATAGCCA	CAAACTGGAA
	ACAACCTAAA	TGTCCTTCAA	TAAGTGAATA	CATAAACAAA	TTGTGGTATA	TCCACAATTT	TTACGCAGCA
	GTA AAAAGGA	ATAATAGGTT	GAATAAGGAA	TAAACACATA	ACAAGGATGA	ACCTTAA AAC	CGTAAGGCTG
	AATGGAAAAA	GTCAGACAAA	ACTAATACAT	ACTGAATAAT	TCCATTTATA	TTGAAGTTCT	AGAAAATGAG
	GACTAACCTA	TAGTAACAAA	AAGCAGAAAA	ATTTTGCCCA	CTGGTGATGG	AGGGGGCGCA	GGTATTGTAG
25	AGTATCTGAG	AAACGACAAC	TGGATAAAAG	GGGGCACAAG	AAAACTTTTG	AGGGTGATTG	ATATGTTTCT
	TATCTTGTTG	CATCGTTTCA	TAGGTGCATA	CATATGTCAA	AACATCAAGT	TATACACTTT	TAAATGTTT
	AGTTTACTGT	ATATCTATTA	TACTTCAGTA	GAGAGGAAGG	AAGAAAGTGG	GCAGGGTGGG	GGAGGGAAA
	GGAAACGAGG	GAGGAAGGCG	CCTAATAGGA	AGGATTTTGG	AGTTTAGATT	TTAAAATGAT	AAAGGATGTT
	TGACACTCTA	GGCATATGAC	GAATATAGGA	TTATGAGTCC	ACAAAAACCA	CCAGGAAGTC	ATGTATGTTT
30	ATACTTTTAA	GTGAAGGATC	AGTGGATTAT	CAACTCCCTA	ATGCTTTGCC	TCTCTATGAC	TGGCTGCTGT
	CCTTCTCATC	CCAACTACTCC	TTCCAAAGCC	CCTTGCTTAA	ATGTAAGCCT	TCTTTCCTCC	TTTCAACACA
	TCCTGCATTC	CGTGACAAAA	TAAGTTTTCC	TTAAACAGAA	TGTACAGCAT	ATTATTTGTA	CAATTA AAAA
	TTTTTGGCCA	GGTGATGATG	CTCATGCCTG	TAATCCCAGC	AATTTGGGAG	GCCGAGATGT	GTGGATTACC
	TGAGGTGAGG	AGTTCGAGAC	CAGCCTGGCC	AACATGGTGA	AACCCTGTCT	CTACTAAAAA	TACAAAAAT
35	AGCTGAGTGT	AGTCTGGCAG	GTACCTGTAA	TCCCAGCTAC	TCAGGAAGCT	GAGGCAGGAG	AATCGCTTGA
	ACCTGGGAGG	TGGAGGTGTC	TGTGAGCAGA	GATCAGACTA	TTGCATTCTA	GGCTAGGAGA	CAGAGTGAGA
	CTCGGTCCCC	AAAAAAAAC	ACATTTTTTT	TTAATGTTTC	CTCCTTGCTT	GTAGGAAAAA	GGCTCTGACT
	CCTTAGCCTG	GGCATCAGAG	CTCTATCTAA	ATGGACTTTA	ACCTGATTTT	GTGGCACTAA	TTCCATTGCA
	GTA CTGTGCC	GCTCACTGGC	CTGTGCCTCT	CTGCCACTAT	TTTTGGAATA	ATGTCTCTC	TCCATCTTGT
40	TTACTCAACT	ATATCCAACC	TCTAAGGCTG	TGCTCCTACA	AAGCCTCCCC	TGGCTACTTC	AGCCACAGAG
	GATATTTAAC	TGCTCTGCAG	TTCAGGACAT	TCTTCTGACT	CTTTAAATCA	CATTTACTTA	TATATGATCT
	TGTGATATTT	TTTGTGACG	TGTTTACTTT	AAATTTCTCT	CATAACCTAT	TCATTTCAACA	AACCTAACAA
	TTATTTATTA	AATGCCAAGT	TAGAAAAATA	TTATGTGATT	TATATGATT	ATAGATATGT	TTGAAATTTT
	ATTTGGCAAT	CTGCAAGTAG	AAAAATAATT	ATAATGTGGT	ATATCTGTGA	TAGAAGTATT	AGTGCAGAGA
45	CCATGGGGAA	CATATATCCAG	CCTGGAAGTT	CAGGAGAGAT	ACGTGGAAGA	AAGGACGTCA	GAGCCTTTTT
	CCTACAGGCA	TGGAGAAAC	ATTA AAAAAA	ATTTTTTTTT	TTGAGATGGA	GTCTCACTCT	GTCTCCAGC
	CTAGACTGTG	GTGTGCGAT	CTCTGCTCAC	TGCAACCTCT	GTCTCCCGGG	TTCAAGTGAT	TCTCTGCCT
	CAGCTTCCCA	AGTAGCTGGG	ATTACAGGTA	CCTGCCACAC	ATGGATGATA	AATATGATCA	TATTTTCTTG
	TTCTTTTCTT	CCTCAGTTGT	CTTCCCTGAA	GAAAGGAATG	CCTTTTATAG	ATGACAAACT	CCCATTCTCA
50	AGAACAAAGG	TTTGTACCA	ATTTAATTTA	ATCAGATGTC	TGCTTTTGAC	CTAGAAACAC	AGTCACGAA
	CTTGGTGATT	AGACACCAAT	TCCCAAACAT	GAGCATTTCT	TAGGAAACAC	AGTAAAGATC	TGAGAGACCC
	AAGAGCAGAA	GGGCGAGAAA	CCAAAAGCCA	TCAGTTTGCA	TAGGAAACAC	CTTGTTTAGC	CTAATCTTTT
	TATTTTTTAT	ACTCTATTAG	TCACTACAAC	TATTTTCTGA	TTGCTATGGT	GATAGATGGT	TTAAAACAAG
	CCTTCATTAA	GAAATGTAC	ACCATGGTCT	CAGTCAAAAA	CACCAACATT	TTATTGGTGA	TTGACAATTA
55	TGGGAATATC	CAAATCCAAG	AAGACAAGGA	GACCTCTGAA	CTTTCTAAAT	GAAGACTCCA	ATCTTCTGTA
	TCTGATGGGA	AGCAGCTTGG	CAAGATTACC	AACCACCACC	ACAGAGAGTG	GACTCTAAGC	TAAGACTTAA
	AAGATAAGTA	GAAATATTAC	AGGTAAAGAT	GTGTACAGAG	AAGGAAGTAC	ATCCAGGGGA	AAAGACAAT
	ACGTGCAAAA	GTAAGGAAAT	GGTAAAAAGT	AATACTACAT	AGTCAAGGCC	AAGCAGAGTT	CAGAAGGGAT
	CTGGTGGTGA	AAAATACGGC	TAGAGAAAAGC	AGCAAGGATT	GGCTTCTAAA	ACCTATGTAG	TATCTTGGAC
60	CTTACCCTAA	ATGT AATGAG	AAGCTTCTAA	AGAATCTTTC	ATTTATTTCAT	TCATTGAACA	AATATTTTGA
	GGCTTTCTGT	GAAC AACATC	ATTCTAAGTA	GTAAAGATAC	AGCAGTGAAT	AGGACACATA	AAATCCTAGA
	TCTCACAGAA	TTGACATTCC	AGAGAGGGAA	AGGTAGACAA	TAAATACATA	AACAAATCAT	TTACAAGAT
	GATTTTCAGAC	AATCGTACGT	ACTGTGAAAA	AAATGAAACA	AGGTAATGGA	CAGCGAAAAAG	GCATCGGAAG
	GAAGCCTGCT	TACTTTTGTA	TGGTTAGAAA	AGATCTCTCT	AAGAAAGAGA	CCACATGTGA	GCTGCGACCT
	GAAGGATACC	GAGAGGCTAG	GTGTGCAAAG	ATGTGGGGAC	AGAACTTTTG	GACTGAATGA	CAATACAAA
	TGCCCTTGGG	TGCAAGCTTT	GCCTGTTCAA	GGACCAAAAA	GAAGGCCAGT	GTGCCTGCAG	CATACTAAG

Table 1. Demographic characteristics of the study population	
Age (years)	Mean (SD)
18-24	20.5 (2.5)
25-34	29.5 (4.5)
35-44	39.5 (5.5)
45-54	49.5 (6.5)
55-64	59.5 (7.5)
65-74	69.5 (8.5)
75-84	79.5 (9.5)
85-94	89.5 (10.5)
95-104	99.5 (11.5)
105-114	109.5 (12.5)
115-124	119.5 (13.5)
125-134	129.5 (14.5)
135-144	139.5 (15.5)
145-154	149.5 (16.5)
155-164	159.5 (17.5)
165-174	169.5 (18.5)
175-184	179.5 (19.5)
185-194	189.5 (20.5)
195-204	199.5 (21.5)
205-214	209.5 (22.5)
215-224	219.5 (23.5)
225-234	229.5 (24.5)
235-244	239.5 (25.5)
245-254	249.5 (26.5)
255-264	259.5 (27.5)
265-274	269.5 (28.5)
275-284	279.5 (29.5)
285-294	289.5 (30.5)
295-304	299.5 (31.5)
305-314	309.5 (32.5)
315-324	319.5 (33.5)
325-334	329.5 (34.5)
335-344	339.5 (35.5)
345-354	349.5 (36.5)
355-364	359.5 (37.5)
365-374	369.5 (38.5)
375-384	379.5 (39.5)
385-394	389.5 (40.5)
395-404	399.5 (41.5)
405-414	409.5 (42.5)
415-424	419.5 (43.5)
425-434	429.5 (44.5)
435-444	439.5 (45.5)
445-454	449.5 (46.5)
455-464	459.5 (47.5)
465-474	469.5 (48.5)
475-484	479.5 (49.5)
485-494	489.5 (50.5)
495-504	499.5 (51.5)
505-514	509.5 (52.5)
515-524	519.5 (53.5)
525-534	529.5 (54.5)
535-544	539.5 (55.5)
545-554	549.5 (56.5)
555-564	559.5 (57.5)
565-574	569.5 (58.5)
575-584	579.5 (59.5)
585-594	589.5 (60.5)
595-604	599.5 (61.5)
605-614	609.5 (62.5)
615-624	619.5 (63.5)
625-634	629.5 (64.5)
635-644	639.5 (65.5)
645-654	649.5 (66.5)
655-664	659.5 (67.5)
665-674	669.5 (68.5)
675-684	679.5 (69.5)
685-694	689.5 (70.5)
695-704	699.5 (71.5)
705-714	709.5 (72.5)
715-724	719.5 (73.5)
725-734	729.5 (74.5)
735-744	739.5 (75.5)
745-754	749.5 (76.5)
755-764	759.5 (77.5)
765-774	769.5 (78.5)
775-784	779.5 (79.5)
785-794	789.5 (80.5)
795-804	799.5 (81.5)
805-814	809.5 (82.5)
815-824	819.5 (83.5)
825-834	829.5 (84.5)
835-844	839.5 (85.5)
845-854	849.5 (86.5)
855-864	859.5 (87.5)
865-874	869.5 (88.5)
875-884	879.5 (89.5)
885-894	889.5 (90.5)
895-904	899.5 (91.5)
905-914	909.5 (92.5)
915-924	919.5 (93.5)
925-934	929.5 (94.5)
935-944	939.5 (95.5)
945-954	949.5 (96.5)
955-964	959.5 (97.5)
965-974	969.5 (98.5)
975-984	979.5 (99.5)
985-994	989.5 (100.5)
995-1004	999.5 (101.5)
1005-1014	1009.5 (102.5)
1015-1024	1019.5 (103.5)
1025-1034	1029.5 (104.5)
1035-1044	1039.5 (105.5)
1045-1054	1049.5 (106.5)
1055-1064	1059.5 (107.5)
1065-1074	1069.5 (108.5)
1075-1084	1079.5 (109.5)
1085-1094	1089.5 (110.5)
1095-1104	1099.5 (111.5)
1105-1114	1109.5 (112.5)
1115-1124	1119.5 (113.5)
1125-1134	

Variable	Mean	SD
Age	35.5	10.5
Gender	Male	65%
Marital status	Married	75%
Education	High school	45%
Occupation	Manager	35%
Income	\$45,000	\$15,000
Health status	Good	85%
Stress level	High	60%
Sleep quality	Poor	55%
Exercise frequency	Low	40%
Dietary habits	Unhealthy	50%
Alcohol consumption	Occasional	30%
Tobacco use	Regular	25%
Family size	3 children	1.5
Work hours	40 hours/week	5 hours
Commutation time	30 minutes	10 minutes
Neighborhood safety	Safe	70%
Access to healthcare	Good	80%
Community involvement	Active	45%
Religious beliefs	Religious	65%
Political views	Conservative	55%
Environmental concerns	High	60%
Technology use	High	75%
Travel frequency	Low	30%
Pet ownership	Yes	50%
Gardening interest	High	45%
Volunteering	Yes	40%
Charitable donations	Low	35%
Philanthropy	Low	30%
Artistic interests	Low	35%
Music preferences	Pop	60%
Reading habits	Low	30%
TV watching	High	70%
Video gaming	Low	35%
Smartphone usage	High	85%
Cloud storage	Yes	55%
Online shopping	Yes	65%
Subscription services	Yes	50%
Remote work	Yes	40%
Freelance work	Yes	35%
Part-time work	Yes	30%
Unemployment	Yes	25%
Retirement plans	Yes	60%
Investment strategies	Conservative	55%
Cryptocurrency	Low	30%
Real estate interest	High	45%
Home ownership	Yes	80%
Renters	Yes	20%
Mortgage status	Current	75%
Refinancing	Yes	40%
Home improvements	Low	35%
Insurance coverage	Comprehensive	85%
Disaster preparedness	Low	30%
Emergency funds	Yes	65%
Financial literacy	Low	35%
Debt management	Good	70%
Credit score	750	50
Banking habits	Online	60%
ATM usage	Low	35%
Checkbook usage	Low	30%
Money management	Good	75%
Budgeting	Yes	65%
Expense tracking	Yes	55%
Financial goals	Clear	60%
Investment education	Low	35%
Financial planning	Low	30%
Retirement savings	Yes	70%
College savings	Yes	50%
Charitable giving	Low	35%
Philanthropy	Low	30%
Volunteering	Yes	40%
Community service	Low	35%
Religious participation	Low	30%
Political engagement	Low	35%
Environmental activism	Low	30%
Technology adoption	High	75%
Online banking	Yes	65%
Mobile apps	Yes	55%
Cloud storage	Yes	50%
Remote work	Yes	40%
Freelance work	Yes	35%
Part-time work	Yes	30%
Unemployment	Yes	25%
Retirement plans	Yes	60%
Investment strategies	Conservative	55%
Cryptocurrency	Low	30%
Real estate interest	High	45%
Home ownership	Yes	80%
Renters	Yes	20%
Mortgage status	Current	75%
Refinancing	Yes	40%
Home improvements	Low	35%
Insurance coverage	Comprehensive	85%
Disaster preparedness	Low	30%
Emergency funds	Yes	65%
Financial literacy	Low	35%
Debt management	Good	70%
Credit score	750	50
Banking habits	Online	60%
ATM usage	Low	35%
Checkbook usage	Low	30%
Money management	Good	75%
Budgeting	Yes	65%
Expense tracking	Yes	55%
Financial goals	Clear	60%
Investment education	Low	35%
Financial planning	Low	30%
Retirement savings	Yes	70%
College savings	Yes	50%
Charitable giving	Low	35%
Philanthropy	Low	30%
Volunteering	Yes	40%
Community service	Low	35%
Religious participation	Low	30%
Political engagement	Low	35%
Environmental activism	Low	30%
Technology adoption	High	75%
Online banking	Yes	65%
Mobile apps	Yes	55%
Cloud storage	Yes	50%
Remote work	Yes	40%
Freelance work	Yes	35%
Part-time work	Yes	30%
Unemployment	Yes	25%
Retirement plans	Yes	60%
Investment strategies	Conservative	55%
Cryptocurrency	Low	30%
Real estate interest	High	45%
Home ownership	Yes	80%
Renters	Yes	20%
Mortgage status	Current	75%
Refinancing	Yes	40%

TGATCCGCTC GCCTCAGGCC CTCAAAGTGC TGGGATTACA GGAGTGAGCC ACCATGCCTG GCCATAAAAC
 TGCCCTTTGT TAATATGACT GTTGGCCTGC ACATTGTCAA ATCCAGTGGC ATTACATCTA CTCGGCCAAC
 CTACGGCAAT TGACACTGTC TGTCTTTCCT TCTGTTCCTC TATCTGTTTC CAGTATACTG GCCTGGCTTT
 CTTTTACCT CTTTATATG CTCTTCCAGT CTCAGGCTCC TTTGGGGATT TGAAGGTATG TTGCATTTTG
 5 CTATTCAATG AATAATGACA AGTAATGATC ACTTAAGACA TTAAGTGGTC AGTTCCTTTA CTAGGATAAA
 AATAATTTTC TTCCCAACAT GGGGCATATT CCATTTCAG TCTGACTGTT CTGTGTAATC TTTGTAATCC
 TTGGCAGCCC CTTTATATC AGTTCATCTA CTGTGCAGGA AATTGGACAA ACATTTGCAC TGGTATAACC
 AAATACAGTT GAACTTTTGG CTGACTCTT AGCTGAACTC ACCAAAAATA ATTTCTGTAA GAGACTGAGA
 CGTCTACGAG TAGGTTTTTC AGAATTAGTA AACATAAATC AAGGATACAC AGGTAGATTT GAATTCAGAG
 10 TAAACAACAA ATACTTTTTT AGTATGTCTA CTGAAATATT TGTATCTTAT CTGGCAATTC TACCTGGTAC
 AGAACTAATC CATCTCTTGT AAAGATCTTG ACTCTGTAAT AAGTTCCTTG GTGATGGAAG GGAGGTATT
 CTGTAATTAG AGTCACTGTC TTCTCCAG TTTTATATC TGGCCAGAT CTGCAATGAA CACACGACAG
 AATCCAGGGG GGAAGAAGAT GGGTGCTTTG CAGGAAAAAA AAATTAATAA CATCTGAAAA AGCTTTTGTA
 CTAAAAGAAT GTGATCTAAA AAAGAAAGCA GGAGAACTTT CTGTCTGCAC TTTACATCAG AACAACCTTG
 15 GCGTCTAGAA GCTGTGCCCT GTGGGAAGTG GTGGTGCTTG GTAAGAGATG CCAGGACCAG TGGTACCCAC
 TGGGAGCACT GCCAATACCC AGCAAGGAGC ATGGGTGCAC AGTAAGGCAT TGCACTGTGA TTCAGCATAA
 AATAACAATA AGGCAACGTC ACGGAGAAAA GGCCAGACTT CCTTTGTTA GAATGTGGGA AATGTCTTCT
 GAAAAATGGT AGTAAAAAAG CATGCTTGGA TGGTCCACTC CAGGCAAAAC TGACTAATCG GGGGTCAGGG
 ATACAACCCC TGCATCATAT GTTTGTTTTT GTTGGGCTGA CATGAGGTTT ACTGTGACCA CTGTGGTTTA
 20 ACCCATAGT CTCCGGAAG TACAGCAGG TCAAGAGAGC TCAAGAGAGC TCCACATAAA AAAAAATAAC
 TCAAGTTTCC ACTGATCAGC TTTTACAAC TCTTATCCTT TCACTAACTT TGGAGCAAGA TTTGAGAATT
 GGATGGCTAT TTGAGGGCTA TTTCTGCGCT TTAGTTCAAT GTTTTGTCT TCTTTATTA GAGAACTATG
 GTTTTTTATT ATATATACAC TTAAAGTTCT AGGGTACATG TGCACAACGT GCAGATTTGT TACACAGGTA
 TAAATGTGCC ATGTTGGTTT GCTGCACCCA TCAACTCGTC ATTTACATTA GGTATTTCTC CTAATGCTAT
 25 CCCTCCCCCA GTCCCCCACC CCCCAGACAGG CCCTGGTGTG TGATGTTCCC CTTCCTGTGT CCAAGTGTTT
 TGTTTATGTG ATAGATTACG TTTATTGATT TGTGTATGTT GAACCAGCCT TGCATCACAG TCACCTGCTT
 ACAAGAAACA AACACTTCAC AGATGGATCA TTATGTGTGA TAAGTGAAT CCAAGGATTT ATGCTCAGAG
 GTGGGCTTAA CAGCTAGGAA GAGCAGTATT TTCCTTCAAC CATGAGTGTA TGCAGGTTT TCTTTCTTT
 TTTGAGATGG AGTCTCACTC TTTTACCCAG GCTGGCGCGC AGTGGTGCGA TCTTGGCTCA CTGTAACCTC
 30 TGCCACCTGG GTTCAAGCAA TTCTCCTGCC TCAGCCTCCC AAGTGGCTGG GATTACAGGC ACCTGCCACT
 GTCTCCGGCT AATTITGTG TTTTATAGTAG AGATGGGGTT TCACCATCTT GGCCAGCCTT GTCTTGAAC
 CCTGACCTCA TGAATCATCC TTCTCAGCCT CCCAAAGTGC TGGGATTACA GGCATGAGCC ACTGCGCCCA
 GCCACAGGT TTTTCAAAGA CTAAACTTAA AAAAAAAAAA AAAATTTCCC AATGAAATAT AAACTAAAG
 TGCTAACTG TGATAGACTG TTTTACAAGA ATGCCAGTTT TCACAAGTGT CTATAGAACA TGTAATTTAG
 35 ATAGTAAGA TGAATTTTG ATAATATTG ATGGCAAATT ATGGCAAGTA TAAACAGGTA TACAACAAA ATAAAAATCT
 AAGCCCTCA ACCAACTGAA TGGACTCCTT CTCTCAGCCA AAGGAATACC AAAGTAAACC TGAATAACTA
 GTTTTGGCCA GGATGGGGG TAGGTGGGGG AAGCCCAACA TGACTCATT TTTCTCCTC CTTTGGGAAT
 TCAGGCACAA CTGAATGTCA GCATTGACAC TAAAACACAG ATCTTAAGAC TGACAAGCCA GACTCTTGT
 AGCAGAGAGC CAGGCCCTGG AAGAAATCAA GTTATTTTAT CCCAAAAAT ATTTCTTGA TATATTTCA
 40 AATGGCCCTG CAAAGCTGTC TCTGTGGGG AAAATTGACA TGCTGTACAG AATTTCCTT TCTTCCAAG
 TTTTACTGA TCCAAGAGAG ATTTAACTAA GAGGCTAGCA TGTTTTTTT TTTTTTTTT TGAGGCGGAG
 TCTTGCTCTG TTGCTCAGGC TGGAGTGCAG TGGCGTGATC TCAGTCACT GCAACCTTCG CCTCCCGGT
 TCAAGCGATT TCCCTGCCG AGCTTCCCAG GTAGCTGGGA TTACAGATCC ATGCCACTT ATGCCACTA TGCTCCAGC
 TTTTGTATT TTTCTAGAG ACAGGGTTT ACCATGTTGG GCATTACAGG CGTGAGCCAC CGTGCCAGC ACAAGACATT
 45 ATCCGCCCAC CTCGSCCTCC CAAAGTGCTG GCTACTATCT AGAGGCTTCA TCAACATAAT AAGACCCTT GTCTCCACAA
 TACCGTCTAT TCTCTCTGAA GTTCTACTG ATCCAGGTC TTTAGATAAT AACAACCTT TCAACCAATT
 CTCCTTATCT TATCTATTA ATCCACCTAT GACTTAAAAG CCCCACTCCT TCAAGTTATC CCGCTTTCT
 GCAATCAGA AAGCTTTTGA TTATATGTGT TGATGGATAT CTGCCTGTAA CTTCATTCC CCTAAAATGT
 50 ATAACATCAA GCTCTAACC AACCACCTTG GGCACATGTT TTCAGGAAT CATGAGACT TGTGCAGAC
 CTTGGTCACT CATATTTGTC TCACAGTAAA CTCTTTAAA TATTGTATAG AGTTTGGCTT TTTTATTGA
 CACAGGAAAA ATAAAGAATT GGAAGGTCTT TCATCAGTCA CTGAGCCAGC TTTATATCTG ACTGAGGTCA
 TACAGTTCAG TGATTTGTAG CTTTGCTACT TAGATTGCTA TCCATTATCT AGAAGCATCA GGATCACGTG
 GGACCTATTG GAAATGTCAGA CTTTCTCCT CTTCATTAA TTTCTTGAAT ATTCTTGGCA CATAGTAGGT
 55 GCTCAATACA TATTGAATC CTAGGTGCAA TTCATTAAAT TGCCTCTTAA GCACCTCAGT CACACGCTT CCAGTCTCAC
 GTTTAGTGCT TTTTACAGA CTAGTCTTTC TGTGTGAGT TGAGATCAAG TGTATCTCT TCTGAGAAGT
 TCCCCTATTA GTCTATTAAG AATCTGCTTA CATGTGAGT CACTGTCCA GTTGACTTGT CATTATTCTA
 CTTCCCTCAC TGGCCCAAAG GAATTTCTCC TCTATTATG ATGTTTATG AGGAAACTAG TCATTTCCCC TAATAGAACA
 GTCTTTTCA TATTAGTTGT TTTTCATATA TATGTTATTA AGGAAACTAG TCATTTCCCC TAATAGAACA
 60 AAATTGCTGG CTTTGGGGT TGGCAATGGA GGGGAGGCTC TTCTTGAAAA GGGGGAAGAG TGTCTCCTA
 ATATTTTCT TACGAGATTT ATGTTGCTCA TCTTTAGCCT TTAGTCCCC ATTGCCTGCC TACAGTTGGC
 AGAGACCATC TGTTCTCTCA CTGTCAGGAA CTGTCTCAAT TCTTGAAGTT CAGAGTCAAA AAAGAAGCAA

004040 "6494560

[illegible][illegible]

[illegible]

TTCTCTGTAT TACTTTTATA CTCTGTCACA GATTCCCTTT GTTTCCTCAT CTCCATGTGA ATTTAGTTAA
 ATTCTCAGCA TTCTGATCCT TACTATACAA GGTAAATGAA TATAAAAAACA AAACGAAACA AAAACCTCTT
 CCTATTACCA TAAG3CCCCA ACCTAATATT TAGTGATATA TATTAATGTG AACAAGGAAC TAACGAAGAC
 TGGGAAGAAA TTCA CAGACT TGAGAGAAAGA AATGGCAGGA TTTCTGGGA ACAATTTTCAT GTAACGTCAA
 5 AGGTGGTAAA AGGTCAAATA GAATGAAGAT GGAGAATACC GGATTTTCTT ACAAATGAT TTCCCAGGAG
 ATCTCATCAA ATGCACGAGG ATACCTTCTC AGTTTCACCT AGTGAGTAAA AGACTGGTAA CATAGCTCAC
 TTACAATTTG GATAAACAAA ACTAAACAAA CAACATCAAA ATTTTCAGAAA AAATAATAGC AAAACAGAAA
 TCAAACACTC AAAATTTTGG TCCTTCTGTT TATTTTCATT TGGATACTCA GTGAATGTTA ATTAACCAGG
 10 AAACTTAAAA GTTA TTTCAA TTATGAACCT CTTCAATCCT TCATCAATTA TTTTGAGTAT TCTGGTCTTA
 AAAACATCTC TTTCITCTAC AAACCTTCTGA AAGAGATGAA CACCTCCACC TACACCAAAA TAATGTGCTT
 TGCTGGCCAA AAGTACACGT CCATTTTAC TTAACAGTCT AAGGAAAGTC TGGTGCAAAT TACTATAATA
 ATCTGGGTTG TAAATGGTTT CTGAGGTGAG AATGAGATCA TATTTTACAA AAAGTTTTC ACTACTAGT
 ACAAGCTTAC AAAA CTCAGA CCACTCACCA GAAAAAATC GGCATTTATA TAGTTGTGTT ACTTTTGGTT
 TCCTGCATCT TTTCACATCT GGCTCATTTA CATCATTTTC TTCATCTTCC AAAGTGGAGT TAGCTACTAC
 15 ATTAGGTAAG GTTA CTTCAT CAATCACCAT ACTGTTATAA TCTTGAAAGT GAATTTCTTT GGACCCTCCC
 TTGAATGCAG TTATACCTAG TAAACCTGAT CCACAACCAA GATCCAAGAC TTTTTCCTCA GCAAATTTCA
 CTTTGGCCTT TGTGAAATAA GCCAGGAGGT CAAAGGTACA TTCCAGATT TTTAAGCCTC CCTCATAAAC
 ACCTGTAATC AGATCAGAGT GAGAAGAAAA GCTTTTGGAA ACTATGTTTT CTCCAGGGAA GTTCTCTTTC
 AACAAGATGG TTTTCACTAC TGATAACTTA ACATGCTGGA AACCTGGTAA TGTTTCTATG ACTTTATTTT
 20 ATACATCTT CTTTAAATCT TTAGGCATAG CATGCTCTTT GGCAGCTCTC AAGGAGGGCT GTTTTCCATG
 TGGCTCCAAG TTCTTGAAAC TGCTGGCTGC ACTGAGTGGA CTGTCTGTGT CTTGAGAGGG AGCTGCATTT
 TCCATTGACT TATGTTCCCA CAAGTGATCC TGAGGCAAGT CAAATTGTTT TGCAGAACAT TTTCTGTCCC
 TCTCTTCTCC TTTTGTACTT TCTGAGACTG ACAGCTCTTT TGAGGAATCC AGGGTCAAAG CTCCATCTCT
 25 AATGGGTGTT AATTCATTTT CCAGATGGTC TTCTATAGTG AAATTAAGCT GAAAGGTCAT CCTCTATTA
 AATGCACACA ATCTTTAAAT TCAGATTCTT CAACTTCTGG ATAGAATTG ATGATACACA CAAATCTGCC
 TCAATTATTC AATTAGTTTT GTTGGGCCCA ATTTCTCTTT AGCAGCTTAT ACATGGTAAC AAATATTTAG
 AGATATTTCC AAATGACTTT TTAGACGTCT TTGGTCTCT TTCCAAGCAG CTCTGGAAAG AAAAAAAAAA
 AAAAAAGAAA GAAATATGATG ATTAAAGCAA AATGGCACAT TCACTAAAG TGTAATATTA AACAGCCACC
 30 CCCACCCCTC CCTGTCCAC CATAAGCTG CTTTTCTTA AAAAGTTGTG GGAAGAGAG AGAGATAAGA
 GATTTGGACA CTCAACACCA CCTTAAGGGT TCCAAAGTGG GAGAAGAAAA TCAACTATAA AAACAAACAG
 AAGAACAACA GCAACACCA CCACTACCAC CTGGACAAAC ATAAAGTCCA AGATATTGAG ACAGGACAGC
 CTAGCTACTT GCTGTCTTTC AGCTGTCTTG ATTTGTGTCC AACCATATTC ACCCCCTAAG CTTCAGGAAT
 AACTTCACTT CTGTCTTTTA CAGAAGAGGT GCAGTATTTT ATTTTGGTAA GTCAGCGTCC CTTTAAAAAC
 35 ATGCATAGGT ATGGCCTGGT GTGTGTAAT TCATCCAAGA CTTCACTCCA AACATTTAGT CGAGAACAGC
 AGCCCTAAGT GTATAGAGT GGGGTAAT TGGCAATAAT TAGTAAAGAC TAATTCGGT TAACAGCCAA
 CGCAAAGTAG GGCCTGCGAG TAGTTGGAG AGACCTGTAG AAATAAGAAG CAACTTTATT GAGAATCTTC
 TATCTACTGC GCTAGACACT ATACCATCTG CCTCAATTTT CACAGTTCTG GCAAGTGGGA TCTTTGTTCC
 CTTTATACAA GATTACAAAT TTGGGGGAGA GCGGGGTCAC CCAGTCCCGC GGCTAGGAAC GCGCTCTTT
 40 CCTCTCCCAT CACGCTGCAA GGCTTGGAGT CACTTCCGGC TGCAGGTCCC GGAACAAATC CGACCCAGA
 AGTGGGGACT TCTGCCCCTC ACCTCCCAT TTGAATGTAA TGTTTACAGT GATCCAGACC TGGGGATGCT
 TGCTTCCCGA CGTGTCCTGG GATCGCGCTT CTGAAAAAGC TCACCTCACA ACGCTCTCT CGGACCTAAA
 TCGCGACCA GTGAGTCGAG TCCTCAGGG GCTAGAGAAG CCCGACTTTC TTCCGGCTC TGAGGGACCC
 GGGCTCACCA AGAACCAGC CGCCCTCCTC TCTATGGTTT TGGAGCCGGC GGAGAGCCGC CAAGGGTTGG
 45 CGGGACTGCG AGTTCCGGT CTGGGCTTTG GCGGGTCTGG TTTGAAGCTC TCCTGTTTGA CGAAAGTATG
 TCTCAGGAAG GTGCGGTCCC AGCTAGCGCG GTTCCCTGG AAGAATTAAG TAGCTGGCCA GAGGAGCTAT
 GCCGCCGGA ACTGCCGTCC GTCCTGCCCC GACTCCTCAT ATCCTTCTT GGTGTCACT TCTACCTAGA
 GAAGGGTGTG GGCGGGTGCG GAACCTTTCT CTTCTGTCCC TTCAGACCA CCGCCAGGCT GGGTTATATT
 ACCGCGGCCT GAACCCCTC TTTTCTTTGT CAGTGAGTGG GATGAAAAGT GAGGGACTGG AGGGGAAGCG
 50 ACAACCGTGG TAGTTTAAAG TAAGGCTTTG GCCCTGGAAG GCCTCGCGGA CGTGTCTGA CCAAGGTTT
 TAGCAGTGGA TGTGCGGTTT TCTTCCATT CTTCTTCAG TTTTCTGTA CTCGTTGCTT GCAATTAAGT
 GTAAATACTT TTGCTAGTGG ATAATGGGGG AGGCAAGGAC TGAGACCTGC GGTATGACGA TAGCTCTGGC
 TCTTAATAGT TTGAAGTAAA GCGAGATACT CTGAGCTTTT GTCTCCCGTA AAAAGGGTGG TGAATATGAA
 TAAGGGCTTT CTTAAGCTTA TAAGAATTAA AGGGCATAGT TCTGTGGTGT GAAATCTTTA AAAGATGTTT
 55 AGTAAATAAA AATGATTTTC CTCCTTCCCC TCTCAGACCT CTTTCTTTC TTTCTTCTT TTTTITGAC
 AAGTTCTCAC TCCTCTCACC CAGGCTGGAG TCTTCTGAA AGAGTTCTTC CGCTTGTGT TGGCTTTCAA
 CTGTTGGATT TGAGGCGCTT AGCGCCTTCT TCGTCCGGGT GCAGCACATT CTTGATTGGT CTCATGCTT
 TGTGGTTGTA AATGTGCTG GAATCCTAGC CTTTCAATGGT AAACCATATG TATATGTATC TTTTTCACAA
 CATTGAGCC CAGCTTTATA CAATTACACT CAAAAGAAAA AAGTAACCT TCACTTGAGA GAATCTCAAT
 60 ACTGCACAAA TATTGTGCAG CTAAGGCCCT ATGTAATCAC ATAGAAGTCA TTCACCTAGG CATTAGCAAA
 ATCTCAGAAG GTGCAAAAGC CCCCTTTTTT AGTTTTTGTG TAGGTACAGA ACTGCCGTCT TCAAGGAGTT
 TCAACTTGAA AACAAATAGC CACCCTCAAA ACATTCAAAA AACTTAAAC TGCGTGCATA ATGTGTGTGA
 GACATGGTGT TAGGCTTTGG GAGAACAGAG ACACGGAACG TGATTCCTCT TCTCCCCAC AAGCTTATAG

004040 " 629E4560



5	AGAGACTTCA	TAAAGTTGAA	AGTCAACATT	CCCACCTAGC	TTTGCACTTC	AAACGACATA	TTCAAAAAAG
	CCCAAAC TTC	CTCTAGTTTT	CTTCATCTGA	GTA AATGGTT	TCACAAACTG	AAACCTTGAA	TCCTCTCTGT
	CTCACACACC	CGA T CAGTAA	GTTC TATTGT	TTCTGATTCC	AAACTATGTC	TTGAATCAAT	CCGTTTATCT
	CCATCCTCAT	TGCTACCACT	CTGATTCCAA	ACCCTTATCA	CCTCTCACTT	GGAGTATTAA	TAGTTTCCTT
	GTTTCTACTC	ATAA TTCATT	ATTCCAAAAA	AGTTAAGAGG	GGAAAAACAT	AGATCTCGTC	ATTTCCCTTT
10	TTAAACCCT	TTACCTTCAA	GGTTC CAGGT	GATCTAAGCC	TTGCCCTTCT	CTCATACTTA	GTTAACTTAA
	TACACTCTGT	TCATGAATAC	ATTAGGCTCA	CCTCACTCAA	GATCTTTTGT	CTCAGCCTGA	TTTGTCTCT
	CAGCCTTTTG	CATATTTTCT	GTTTATGTCT	TGGCCCAAAT	GTCACTTCCCT	TAGAGGGGGCT	TTTTCAGAGC
	CTTCAATCTT	AGGCAGTTCC	CCCAAACGCA	GTCTTACACT	TGTATCACAT	TGGCCTGTTT	AGTTTTCTAA
	AAAGCACATT	ACCA TTTAAAA	GAAATGCTCT	TGTTTGCTTT	GTATATTTTC	CACCTCTACA	CATTATGTTG
15	CAAAGTTCAT	AAAC GCAGGA	TGTTGATTTT	CTTCACAGCG	TTACCCTCAG	CACCTAGAAC	AGTGCCTGAA
	ACATAGTAAG	CATTCATTAA	AGGGCTAAAA	ATATTTTCATG	TTTTAAAAAT	ACTTGGGAGT	CTAATTAGAC
	AATACTTTTT	TTCA TCTTAA	TGGTAGTATT	TTAGCTTCAC	TATTTTAAAC	AATGAAAAAT	TTGCAATAAA
	TCTCAATAGC	CATTAACCCC	CAAAATCTTT	TTCATGTTTT	GCATTTTACG	TATTATTTTC	CAGGCCCTTAC
	CTGCATGTCT	GCATAATCAT	AACTGACTAA	TTTTGGAACA	GCTGGTAATT	ATTTGAGCTT	TACTGAA AAT
20	TTTTCATGAG	GCCAATTCTA	CCCTACTGAA	CTCAAATTTG	AGTTAATGAT	GACCTCATTT	TGATTGCTGC
	TGTAAAAAAT	AAGATTTTCGG	AAGAGGAATG	AATTCTTGTA	TTACTGTGGT	AGGACTATGG	GTTTTTTTTT
	GTTTGTTTTGT	TTGT TTTGAG	ACGGAGTCTC	ACCCTGTCAC	CCAGGCTGGA	GTGCAGTGGT	GCGATCTCAG
	CTCACAGCAG	CCAGTTTCAA	GTGATTCTCC	TCCTCAGCC	TCCCGAGTAG	CTGAGATTAC	AGGCACGTGC
	CACCATGCCC	GGCTAATTTT	TTGTATCTTT	AGTAGAGATG	GTTTCACCAT	GTTGGCCAGG	CTGGTCTCGA
25	ACTCCTGACC	TCGTGATCCG	CCTGCCCTCAG	CCTCCCAAAG	TGCTGGGACT	ACAGGCGTGA	GCCACCGTGC
	CCGGCCGGGT	TATTTCA TTT	TCTTATTAAC	ATTTCTTGAT	GATTTCTATG	GTGTTGTTAT	AGTAAAACAT
	TTCTAACAAAT	TATTCTAACA	ATTATTCTTG	ATGGTGATA	TGAAGAA TTT	ATTGTCGTGT	ATTTGTAAGC
	TGCTATGTGC	AGAAGAATTT	CAGTCAAATA	AAGTTGGTAA	GATAGGTATG	TAAGTAATAT	GAAAAAAGAT
	AGAAGGTGAT	GAGT GACTTA	GGTATAAATT	AAGTACAATA	GAAATGTTGA	GGAAAGAAAA	ATTTCTTGTA
30	ATAGAAATCG	GAAGTACAAA	CTGGGCATGG	TGGTGTGCAT	CTCTAATCCC	AGCTCCTTGA	GAGGCTGGTA
	TGGGAGGATC	ACTT TAGCCC	AGGAGCTTGA	GGCTGCAGTG	AGGTGTGATC	ATGTCACCCG	ACTCCATCCT
	GGGTGACAGC	AAGACCGTCT	CTCTTTTTTT	TTTTTTTTGA	GACGGAGTCT	CGCCTATGCT	GGAGTGCAAT
	GGCGCGATCT	TGGCTCACTG	CAACCTCTGC	CTCCCAGTTT	CAAGTGATTC	TCCTGCCTCA	GCCTCCTGAG
	CAGCTGGGAT	TACA GGTGTG	CGCCACCATG	CCGACCTAAT	TATTTTG TAT	TTTAAGTAGA	GACGGGTTCT
35	CACCATACTG	GCCA GGCCTG	TCTTCAACTG	CTGACCTCTT	GTTTCGCCAT	CTAGGTCTCC	CA AAGTGCTG
	GGATTACAGG	TGTC AGCCAC	CCC ACTTGGC	CCC GAGCGAG	ACCCTCTCTC	TAAAAA AAAAA	TAAATAAATA
	AATCATAAAC	CTGTGGATTA	TTGTAGCATT	GTTTCTCATC	TGTCAAAAAT	ATTTCATGAC	TATGCATAGT
	TTGAAAAGGC	AAGTTTG TCC	CTGGGCAATT	TTCAAAAATAT	TTCTTTAATG	TGTTTT CACA	ATACTGTTTA
	CCTAATAAAT	CTTAAGTTTT	TAAAAGCAAA	ATTAAGCCAG	TAATTGAGT	CCAATTCCAA	TCTCTTATGA
40	GTCATTGCTT	AAATTTCAAA	AGGGTTTTAT	TTTTTTTTTA	GGTTTGTTCT	GAGTAATGAA	TACCCATTAA
	CTATGATACT	AGTA TCTTCC	TTAATTATCC	TACTCATTTG	CTCAACATTCT	TGACAGTTGG	ATTGAGCATA
	TTCTGAAGTA	AAAT TGTTTT	AACTGTATGA	TGTACTTTGA	TGTTAAGGTC	CGAGTCCCCA	CATACCTCGG
	TAGATGTGTT	CTTACAGTTT	TGTATTTCCCT	TGAAATGTAA	CTGTTCTCTA	TGTTACAGCC	TTTATAACCT
	TCAGTTACTT	GAAA TGAACA	AATTCA TTCA	AATTCCAGCA	CTTAAAAAGTT	TTAAATTACA	TTTTGGATAA
45	ATACCAAAGT	GTTTGTGTTA	TGATGTATGT	ATAAACAAAT	TGTAAATATT	AAACGTTAGT	TGTTACGATT
	AGACCTATAT	AAAACATGAT	ATGCAGTCTA	CTGAATAGCT	ATCAGCCTCT	AACATGTTTA	GTGTCATTTA
	GAAAATGCTT	TCTAAATTGC	CAAAAGCTGA	TTGTCTAGGT	GATAACAAAT	TTACCATTTG	GAGGAAAGTTG
	ACTTTCTCAT	TTTCTATGCT	TCATCAGTCT	TACTTGATGA	GATTCA TTCT	TCTAGT CAGA	AGAGAGTTTA
	GACTGCTCAG	TTTCTCTCAT	TTTTGAGTTA	GCTTTCTTAT	TTAGAGTTCA	CTTGGTTGTTG	GAATATTCAT
50	TTATAATTTG	AATCTACGTT	GTGTAATGGG	ACCTAA TTTT	TTTTTCTTTT	GTTTTTGTTG	GAGTCTCGTT
	TTGTACCCCA	GGTTGGAGTG	CAGTGGCGTG	ATCTTTGCTC	ACTGCAACCT	CCACCTTCCA	GGTTCAGGTG
	ATTCTCCTGC	CTCAGTCTCC	CAAGTAGCTG	GGATTACAGG	CATGCTTCAC	CACGCCTGGC	TAATTTTTGT
	ATTTT TAGTA	GAGATGGGGT	TTCAACCATGT	TGGCCAGGCT	GGTCTCAAAA	CTCCTGAGCT	CAAGTGATCC
	TCCTGCCTTG	GCCTCCATAA	GTGCTGGGAT	TACAGGCGTG	AGCCGCTGAG	CCTGGCCCCA	GAGTTTGTTT
55	TGTTTGTGTT	TCAA TACAAG	ATCTCACTCT	ATTGCCCAGG	CTGGGAGAGCA	GTAGTGCGAT	CATAGCTCAC
	TGCAGCCTGA	ACTCTCTGGT	TCAAGCTATT	CTCTGCTCTC	CATCTCTTAA	AGTGCTGTGA	TTACAGGCTT
	GAGGCATGAT	GCTTGGCCTG	TGTTTTTGTT	TGTTTGTTTT	GGGGGACAGG	GCTTGCTCTT	GTCACCAAAA
	CTGGAGTGTA	GTGCTGCGAA	CATAGCTAGC	TCACTGCAGC	CTCCATCTCC	CACGCTCAAG	CAATCCTCTC
	ACCTCAGCCT	TCCAAGTAGC	TGAGACCGCA	GGTGCGTGCT	ACCATGCGTG	GCTAATTTTC	TATTTATATA
60	TTTATTTTTT	GGTA TACATG	AGGTCTTGTC	ATGTTTCCCA	GGTGGTCTTT	AACTCCTGGG	CTCAGACAGT
	CCTCCCGCCT	CAGC CACCCA	AAGTGTGGG	ATTACAGGCG	TGAGCCACCA	TGCGTGGCAT	AATTTTTTTT
	AAGTAAATTA	TTTTTTTATC	TTGAGTATAG	AAGTGATTCA	TGTTCA TTGT	GGAAAAATATG	AAACATATAG
	AAAAACAGAA	AAGATTTACAA	AACATCTAAT	CTGAAATGGT	TAAGATTTTG	ATGAGAACAG	TCTCATCTCA
	TTTCCGTATA	TTCTTGGCAG	CCTATCCCAT	ATTTCTCGTA	CATGTTTATC	TACATTA AAA	TTTGTGTTAT
	ATTTTGAAAA	CTTT TGTTTT	AACATACATTG	TGAACATTTT	TCATGTTTTA	AAATGTCATT	TTAATGATGG
	CAGATCCTAT	TCA TTAGATG	TACACACACC	TATTTAACTG	GTCCACAATT	GTGGATATG	TAGGTGCTTT

[illegible]

CCTTCTCTC TTTT TTTTT TTTTGGCTA CTACTTAATA GTTTCTCTGT ATAGAATGTG GTATTTTGAA
 AGTGTATCAA GCTT TAGATT GGTAGTATTC TTGCATTAA TAAAGGGCAG TGGCCTTTGT TGACTGACAT
 GACAATATTT TTATAAAAT TGTATTTTGC TTACAGAAA TTTTGAAAA TATGTAGAA ATGTTTTTAC
 CTCATATGAA CCACCTGACA TTGGAACAGA CTTTCTTTTC ACAAGTGTTA CCAAAGGTAT AATACTATTA
 5 CCTGAAAAATA CATC TTATAA GGAATCTAGC CTCAGTCTTA GATGATTTAT TATTAATTAT GGCTCTCTTT
 TTCTAATATA TCAAATATAT TCAAAATAAA AATAAGGAGT AAGTAGATCT CATGTGAGAC TATAATGGTG
 TTAGTGTGAT CATTAGGCAG TAAAAAACTG TTACAGGCTG GGCACGGTGG CTCATGCCTG TAATCCAGC
 TCTCTGAGAG GCTGAGGTGG GCAGATCATC TGAGGTGAGG AGTTCGAGAC CACCCATGGT CAACATGATG
 AAACCTCGTC TCTA TAAAA GTACAAAAAA TTAGCTGGAC ATGGTGCCAG GTGCCTGTAA TCCCAGCTAC
 10 TTGGGAGAGT GAGA CAGGAG AATTGCTTGA GCCTGGGAGG CGGAGGTTGC ATTGAGTCAA GATCGTGCCA
 TTGCACTCCA GCCTGGGCAA TAAGAGCGAT GCTCCGTCTC AAAAAAAAAA AAAAAAAAAA AAGAACTTAT
 ATTTTCAGAT TGTGTGGTTC CTTTACTAAC TGAATTAAAA TTATTTGTAG TCAATTTTAA ATGCTCTTGT
 ATTTTAAAGC CACTTACTC CAGCCTGGGT GACAGAGTGA AACCTTAAT TCAAAAAAAAAA AAAAAAAAAA
 AAGAAAAGCT GGAATATTGG CAAAAACAAG TAACTAAGAG AAAACATTAA ATTCACAGAA TACATTATTA
 15 CATTTTAGAT ATATATGGTA TATGTTTTCT CTGAAAAGCA CAAGCATACC TTTTTGTTT TAAATGGAGG
 GAACTAAAGA TACTTTGGTG CCAAAATGAA ACATTATTTG TAATTAATCT CTTATTGAAA TGGGTTTCTA
 ACTTTAGCTT TGAATCGTAA TCTTCAAAAT TTCTGTACT CATAGTCACT TGATGATTCT CTATCTGAAA
 TATTTCTTAG AATTGTCTT TGACCACCAG AAAAGATTTC AACTGTTACA TAGATGAAAA TGGATGTTGA
 GTGTTAACAG GCCATGCGGA AACAGTATTT TCTTTAGCTA CATTGTATTG TTGACTGTGT TGCTATCTT
 20 ATAATGTTTA GGTCAATTA ATTGTTAGAA AGATCCAAGT ATTAAGATCT AGGGTGGCTA ACTTTTACA
 GACAAAAAGC TTGTTTGTAA GGTCAATTAC TATACCTTA ATTCAGGAAG GTTAGCTTGA ATTGGGTCAA
 AAGGAACTG GTTAAAAAT AAGTGAGTAG TGAATAGGCG ATTCAGTGCA AATTCCTTCC AGAAAAATACC
 CTTGTAATG ACTGTATGAA TGTGGATTCT TCAAGACAGT CAAATTTATT GTGCGAAAGT AATACTTTTA
 TTTTTTGCAT CTCTAAAAACA TGAACCTTGA GTGATTTTTT AAAAAAATTG ATGCTATTAA ATAGATTCAA
 25 ACCATAGAAA TGGAAAAATA ATTTCTGTTT GGGGCTTTTG GGGGGATTAT GTTGTA AAAA TACCTTTTCT
 CTGTATTTTG TGCTTAATTA GGTACAATTG TTAAGCTAGA TGATAGCCTG TGGATGTTAC TAGTGCAAAA
 TCAAATTATC GTAATGTGTT TTCTCTGTA AGTTTTGTCT TGCTTTTTCT AGTGATTCT CTTATTCCTG
 TTTATTACTT GATTGTGTTT TACAGACTGT GAAATTATTC GATGACATGA TGTATGAATT AACCACTCAA
 GCCAGAGGAC TGTCAAGCCA AAATTTGGAA ATCCAGACCA CTCTAAGGAA TATTTTACAA GTAAGTCAAA
 30 TGTATTAGAA AGCAAGGAGAG AGAGGGAGCT TAAAGAATGT CAAAATTTT ATACTGATAC TGATTAGCTA
 TGTATTCTTA TGTAATGGCC TAATGTTGGA ATTAATTTTA TAGAATTAAG GACGTGAATA TAGAAACATG
 AATTCTGAAT AATAAATCT TATAAGAAGA GAAGTCATCA AGCTAGCTGA CCCTACCTGT ATTTTCAAGG
 ATATGTGTGG AACCTGACC ATGTGTTTTG AAGTTTGTGT TAGTATTCTA AATGGCTAGA CAGTTGTTC
 AGTATTTGTA GTTCGATAG ACTAAAGTTC TGTGAAAAGA GGAAGAGACT GTGTTTTGTT CATTGCTGTA
 35 TTTGTAGCAG CCACCATGCT GACTAATACC TTTCAGTGC ACAAAAAATA TATTCTAAGT GAAATTCCT
 TCCTTATTTCA CAGACAATGG TGCAGCTCT AGGAGTCTC ACAGGATGTG TTCAGCATAT CTGTGCCACA
 CAGGAATCCA TCAATTTGGA AAATATTCAG AGTCTCCCT CCTCAGTCTC TCATATAATT AAAAGCACAT
 TTGTGCATTG TAAGGTGAGT AAAGGTCTAA TTATACTTTG AATGGTATAT AATCAATGTG CATAGGGGCT
 GAGTAAAATA ATGTTGTAT AAGATTTTAC ATTTTAGTCT ATATTATTGA AATAAACTTT TCCATAGAAT
 40 AAAGAACATG TAAGTAAATA ATTGTTGCAA AAAAAGTGGT TTTAAGGAAG TCATTA AAAA TGGCTTTTTG
 GGGTTTTTTA GTTTATCTT ATTTCCCTC TATAAAGAAA GAAGTTTTAA GAATTTGTGT TGAGACAGAC
 ACAGGGATCC TGAATATAGT ATGTCATGTT GCATTGACCA ATATTCAATT ACCATTATGA TTAGTGTC
 GAACCTCTCT TTATAAGGA AAGTTAATCC TTATTAGTC CATCTCTACA TGCCAGAGGT AGCCTTGAGG
 45 CACAAAAGCT TGCTAGAAT TTATGGGTCA CAGACAGTTT TAATATTGCT ATTTGTTGGG CGAATGAAAA
 TCACTAGTTA ATTAATACCT CTCTTGCTG ATAGGATGCT AAAAATGTCA CGCACCTGGC CTAATGTTAC
 CCTTTTTTAG TTCTTATTT GCAAGATCAT GGAAGTCAGA AATAATATTT TATACATGCT TGCATCTCTT
 GAAGCACACT ATAATTAATG GATGTTCACT AAACAATGAA TGAATATGTG ATTCAGTAAA TTTATGATCT
 CTAATAGTAT GAAATTAAGT AAATTTGGCT CTGAGCTTT GATTGTGTTT TTCTCTCATT TTTATTTATC
 CGTAATCAGA ATAGTGAATC TGTGTATTCT GGGTGTTTAC ACCTAGTTTC AGACCTTCTC CAGGCTCTTT
 50 TCAAGGAGGC CTAATCTCTT CAAAAGCAGT TAATGGAAT GCTGGACATG GTTTGCATGG ACCCTTAGT
 AGATGACAAT GATGATATTT TGAATATGGT AATAGGTGAG TGAAGAAAAAC TTTCTGCTTA GTATATGGTG
 ACTATAAATC ATGATCAAT TAAAATTGTC TCTAATGATT CATGTTATTT TCTTACTAAT TATGCATTAA
 AATTGATTTA AATCTTACCA AATAAATTTT TAATCTTGAA ATTTGGAATT TGTA AAAATTT ATTTTGGGTA
 CCTTAACCTA GATTTGCGTA TTTAGTTACT GTAATTTCTC CACAATGATT AACTTATATA ACTTTATAAT
 55 CTCTGAGGTT GTCCATATTC AGAGACAATA ACTTTCACAT TTTTTTAACC ATA ACTGATA TTGAGATGCA
 GTTTATATTT CCTTCCAGAA TACATATAAA TACGTGCATA TGTGTATGTA AATATGTCTA TTCTCATATA
 CATATTATAA TGAATAAAT CATTTTACAT GTGATGCAGT TTATACTAGT TTATTTTAT TTTATTTTAT
 TTTTTTGAGA CAGGTCTCA CTGTGTAGCC CAGGCTGGAG TGCAGTGGCA CAATCTCGGC TCACTGCAAC
 CTCGCTCCCT GAGTCAAGC GATTCTCCTG CCTCAGCTC ATGAGTAGCT GGGATTATAG GCGTCCGCCA
 60 CCACACCTGG CTAATTTTTG TATTTTAGT AGAGACAGGG TTTCACCGTG TTGCGCAGGC TGGTCTTGAA
 CTCCTGACCT CAGCTAATCC ACCTGCCTCA GCCTCCCAA GTGCTGGGAT TACAGGCATG AGCCACCGTG
 CCCAGCCAAT ACTAGTTTAT TTTTAAAGAA TTGCTGGTCG TAACACACTT CATTGATTTT ATCACTCATT

5	AATGATTAT	GAACAAGAGT	TTGAAAAACA	ATATAAAGGC	AAAGTTTGCA	TTCAAAACTT	TGGTATAAAG
	AGAGTAAGTT	GGTTTGTGTC	AGTGTATCAG	GCACCTGTTG	CTCTGCAACA	CACCACCTCA	AAATCTATTT
	ATTCACTATT	TATTATTCA	TGATTCTGTG	AGTCTGCAGT	TTAGGGTGGG	ATGTCCTGAG	ACAACTTTCT
	CTGATCCACC	TGGGJCACTA	GCTCACCCAT	GTGACTTCAG	TGACTTCATT	CACATCTGGC	TGTTGGCAGA
	GGCAGAAGTA	CTTGAGAAAG	CCATGTGCAT	CATCCAGCAG	GTTCACCCTA	TCTCAGATAC	CTGATGCCAG
10	TGGTTTCAGG	GTTTCTAAGA	GTAGCAAAAG	TGTGAGCAGG	TCGCTGTGTG	CTAGCACTTT	TCAAGTTTCT
	GCTTGCCTTA	ATTTATTAT	TGTCCCCCGG	GCCACAGCAG	GTCATACGCT	TTAGCCCCAGA	GTGATTGTAG
	AAAAGTGTGG	ATTCACAAAG	GGCAGTCATT	GTGGCCATTT	TTATAAAATA	TTACCACAG	ACTGAGTAAA
	AGCCTTGCAT	GAATACCATG	GATATTAATT	TGAATTCTTC	CTTTTATAGAT	TTTCTTTCCT	TAGCAATTTG
	TTTTGTCAAT	TTGGATTAGA	ATTATATCTG	TAGAATATTT	CAGTTATAAT	AGGGTACAAC	TTTTATTCCA
15	CTGAACATCT	TTAGTTTAT	TTAGGTCATC	TGGTAGGTAT	AAACTTCAGA	AGTTAATATT	CAATATTTAT
	AAAAACCATT	AACAAGTGTG	ACACTTAAAT	AGTTTAAATA	ATTCTTTTGA	CACAACTGTT	TCCAAGTTGT
	GTTACGTATT	TTAAATCAAT	CAAATGTTGA	AATTGTTTCA	TAGATAGTTT	TAATTATAGG	AGAAACTCAC
	CCCCATGACA	TTTGGATGTC	TTAAAGTTTC	TGTTATCTTT	CTTTGCAGTT	ATTCATTCTT	TATTGGATAT
	CTGCTCTGTT	ATTTTCAGTA	TGGACCATGC	ATTTTCACTCC	AATACTTGGG	AGTTTATAAT	TAAGTAGAGTT
20	TGTTTGTAT	TTTTACTTT	TTGAAAAATG	TTTTCCATAT	TCCCCAATCT	TAAATTATCA	TGATTCTTTA
	GATTGCATTT	AAAACATTTT	GTGTGAAATT	AATGTTCACT	GACACTGCTG	TCTGATAATC	CAGATATTCT
	ACATGTAGCT	CTCAAGCCAA	ATTGGACTTC	TTTACCCTGT	GGCCTCTAAA	ATTAACAAAA	ATGTTCTTCC
	TAGTTAGCTA	GTACTTCAGA	AATAATGGGC	CATGGGCCAG	ACTAGAACTT	AACCACTTTT	CTTCTGCTAC
	TGTTGTTTAA	CCAGCTATCA	AGTATCCTAT	TTCTAGGATT	AGATAAATTG	ATAACTATAA	TTAAAACTGA
25	ATATAATCTT	TTCAATTAGGT	ACTTTTAAGT	TGTTCACT	TAATTCCATT	TGTACAGTAA	TTTTAACTTT
	CTGAAACTGA	AGCATTTTAA	AGGGTCACCA	GGGATAGTGC	CTGTAGCATT	CATCAGATT	TTAGGGGTGA
	GAGGAGATGT	GGTIGAGATC	TAAAAATGGT	TAAAGATATC	TACTTTATAC	ACATACATAA	AACATTAAGG
	GTCAAGTAT	TTTCAAGTCT	TAGGTACTTT	TCTTGTACTA	CCAGGACATT	AAGTTGCCAT	TCAAGTGTTA
	AGAGTGTTCG	CTGGGAGCTG	TATCAGATGT	GCTTAAATCC	ATTCTTGAAA	TCATTTACTC	CTTCTGAGCC
30	CTTGGGCTAT	TTGGTTAATT	TCTCTGAACG	TTAGTTTGCT	CATCTGAAAA	TGGAAATAAT	AATAGCAACT
	TCTTGACAGG	GTTATAGTGA	GAATTGAGTT	CATCACTGTG	AAATGCTTAG	AAATGTGCAT	GACACATAGT
	TAATACTCAA	GGAAATTAGCC	ACATCACTAT	CATCATCACT	GATTATCTTC	CACTCTTACC	CTCTCCAGT
	TCATTTTCTG	CCCAJCAAGAA	TGATCTTTTA	AAAAGTAAAT	CAGATCATGT	TACTCTATTG	CTTGAAGTCT
	ATCCCATTGT	ATTAAGAATA	ACAACCTAAT	CCTCTGTGGA	TGCTGCCTCC	TTCAACAGCC	TGCTCATGTC
35	TGCTCTCCCT	ACTCTTAGTT	CCTCAACAT	ACCAAACTCT	CGTGTCCAG	AGCTTTTTCG	TGGTTTTTCC
	ATCTGCCTAG	GATCTTCTC	TCTCTATT	TGTGTACCTT	GCTAACTCCT	GCTTACTGTC	TTTCAGTTCT
	CAGCTTAAGA	GTTATATCTT	CATGATAACA	TTCTTTGATA	TCCTTACCCT	AAGATTAAAGT	TAGATTGATA
	TCCTTACCCT	AAGAATAAGT	TAGATTAGGT	CTCTCTATTG	TAGCACCTTA	GACTCTGTCA	TTTGACAAAT
	CACAGCCCTA	ATTAATTATT	CTTAAATTA	TTTAACATTC	TCTCTCATGC	TAGACCACAA	GTTCATGCA
40	GGTAAGGCGG	AGA'TGTGTC	CATTTGTTTG	ACCCCTTTGT	CTCCAGGGCC	TGGTAGAATG	CCTCATACAT
	AGTAAGAATT	CAATTAATAT	TTTACACAGA	GAAAAAATTA	GCAACTTATT	TAAACAAATA	TAAGTCTTCT
	AGAGTTAAAC	TGGGCACATC	TTAGTTATAT	TATGTGATAT	ATGATGCTTT	TTGATTGTTT	TTTTAAGTGT
	TCTACAAGGT	AGATATTGTT	AGAGGTCTTA	AGTTACTTGA	TGTGTTACTT	TGGTGTAGTT	TATCTTTTTC
	TTTTTATTCA	TTTAGGCAGA	GCCTTAAGCA	CCAGTCCATA	ATAAAAAAGCC	AGTTGAAACA	CAAAGATATA
45	ATTACTAGCT	TGTGTGAAGA	CATTCTTTTC	TCCTTCCATT	CTTGTTTACA	GTTAGCTGAG	CAGATGACAC
	AGTCAGATGC	ACAGGTAAAA	TTTGGGCTAA	TAGCATTTTA	AACAGCAACT	CTTATTTTCT	TTGGCAGTTA
	GTAAATCTCA	TTTGAATGTC	TGGGTCAGTC	TATTTAAGAG	GATTTTAAAT	TATTTTCAAT	GGGTGTTTTT
	TTTTGATCTG	TGGGATTATT	TATATCCCCT	AATTACTTTT	CACCCAGAGC	ATTGTATTAG	ATTCTTAAT
	GCTGTCAATT	CCTCTGGGGT	CTGCCGTGGCT	CCCTCTTTGC	TTGGTAACTG	GTGGTACACA	GCATTTCTCT
50	CAGAACTCCT	TCATTTCTTT	CTGCATGAGA	ACAAAAATTC	TTTTGTTCAT	ATTTGTATAA	GATCTGATAT
	AGCTGCAATC	AATCTGTCAT	TTTTTCTTCA	CCAAAGCATT	GCGACCTTTA	GGGATACAAG	TATGTTTGTG
	CATGTATATG	TATCTATCAG	TCTTTTAAAT	TTGATATAGT	CATACATTTG	TTTTTATTTT	GAAAAGTTAG
	AGTGTGAAT	TGGTATCCCA	TTTATGAAAC	ATTATATTCT	AAAAATTTGT	AGTACGATTA	TTGGGAATTA
	TAACCTATTT	TCCTGTAACA	CTGTTATACA	TAGTACCTTT	TGCTTTCAGA	CTAGCCCTCA	ATTTTATTTA
55	ACTATAGTAG	TCCIAAATTA	TAAGATTAAT	AGTACTCAGG	ACCTAACAGT	TATATGTCAT	TTGTTTTTTT
	TTTTTTTGG	ATGGCGTCTC	ACTCTGTAC	CCAAGCTGGA	GTGCAGTGGT	ATGACCTTGG	CTCACTGCAG
	CCTCTGCCTC	ACGGGTTCAA	GGGATCGTTT	TGCTTATGCC	TCTTGAGTAG	CTGGGATTAT	AGGCGCTGCT
	CACCAAGCCT	GGCTAATTTT	TTTAGTAGAG	ACGGGGTTTC	GCCATGTTGG	CCAGGCTGGT	CTCGAATCTC
	TGACCTCAGG	TGGTCCACCC	GCCTTGGCCT	CCCAAGTGTC			

TTTATCCTAT AGATTCATAT TCTCAACACC AACCTCCTCC TTTTTCAGTT TCCTTCTTGC TTCTCTTGAC
 ACCACAGAGT TTGCAGCTAG TACTTGGAGA GGGAAAATTAA ACAGAGATAC TTGGACCAAG AGTAAGATGA
 AGAAAGTCTA AACACAGTA TAGTCTATAG TGGCAAGAGA GAGTATGGGG GCTGCTTAGC CAGGGTGGCT
 GTACATAAAG TATACTCTCA GTTATATATA ACTGCTTATA GATGGAAATC AGAAAATTTA AATTCTCTTA
 5 ACTGTCCAAG AAAATTCTCA TTTTTCAAA TTTGGGACTG ATAAATGTGA CCAGTTCTGC TTACTGTCCA
 TTGCCTGAAA TGGAGCTTTG AGGTGGACTG TATAATTTCT TCAATCTTAA CTCCAAATTC TGATCAGCGA
 CGCCCTCTGC TGTTACTAT TAATATTTAT TTACCAATCA AAGTAAAGTA TTGAAGTTTT CCTGGCAGTT
 TTCACTTTGT GTTTAGTCC ATTTAGGCTG CTATAACAAA ATCCCTTAAA CTGGGTAAGG GATTATAAAT
 ATTAGAAATT TATCTCTCAC AGTTCTGGAA GCTGGGAAGC CCAATATCAA GGCACCAGTA GATTTGGTGT
 10 CTAACGAGGG TGTC CCGTCT GCTTCAAAAA TGGCCCCCTG TTGCTGCATC CTCACCTAGT GCAAGGGGCA
 AGACAGCTCC CTTC AACCTC TTTTATAAGG GCACCTATGT CATTCAATGAG GGCAGAGCCC TCAGACTTA
 ATCACTTCCC CAAAGGCCCC ACCTCTTAAT AGTATCACAT TGGGTGTAG GTGTCTGGGA GGACACCAAT
 CTTCAGGCCA TATCATCTCA CTTGGAAAAA AGTCAAAATA AAACCAGTAG ATTTAATTAA TATTACACTA
 TTTATAGAAG CATCTGATGT ATCATTCCTT GTATTAATTT CCTGGGGTTG CCGTAACAAG TTACCACAAA
 15 CTAGGTGGCT TAAACAATA GAATTTTATT CTCTCACATT TCTAGAGGCA GAAAGTTCACA GTGTGTCAAT
 AGGGCCATGT TCTCTGGAAG GCTTTAGGGG AGAATATATT TCATATCTTT CTCTTAGCTT CTCGGTGTCA
 CTGGCAATCC TTACCTTACT TTGGCTTTCT GTGCTTTCAC ATCATCTTTT TATAAGAACA CCAGTGATAG
 TGATTAAGGG CATACCTTAC TTTAATATGA CCTCATCTTA ACTAATTATG TCTTCAATAA CCCTATTTCC
 AAATAAGGCC ACACTCTGAA GTATTGGGAG TTAGAACTTA AAGCTTTTTG GGAGGGACCC AGTTCAACCC
 20 ATAACAACCC CTAATAATCGA TATTTATTCT CAATTAAAGTC TTGAAATTGG TTCAAAAAG AGAATATTCT
 ATTAGAGTTT TTAATGTATA GTTTTAACAT ATAGTCTTTT AGCCCCCAAT TTTTTTTTTT TTTTTTTTTT
 TTTTTTTTTT TTTTIGAGAC GGAGTCTCGC TCTGTCGCCC AGGCCGACT GCGGACTGCA GTGGCGCAAT
 CTCGGCTCAC TGCAAGCTCC GCTTCCCGGG TTCACGCCAT TCCCCTGCCT CAGCCTCCCG AGTAGCTGGG
 25 ACTACAGGCG CCTGCCACCG CGCCCGGCTA ATTTTTTGT ATTTTATAGTA GAGACGGGGT TTCACCTGT
 TAGCCAGGAT GGTCTCGATC TCCTGACCTC ATGATCCACC CGCCTCGGCC TCCCAAAGTG CTGGGATTAC
 AGGCGTGAGC CACGCGCCC GGCCTGCCCC CAATTATTTA GTTTTCTAT AAACAGGGAA ATTTATTTGT
 GTGGCCCTTA GAACTAATTT AATTTCCACT CTAATTCCTA CTTATGTTTA TATAATGCTT TTAGAAATTT
 GTATTATCCA GAAAATAAAC ATATACTATT GTATCTGTG CCTACACTTA GATTTTATTG CCGTCTATAT
 TTAATTTTA TTAGTATTTT AATTGTTTTA TAAAGAAAG AATGTGCCTG TAATCTCAGC ACTTTTGAGA
 30 GGCCAAGGCA GAAAGATTGC TTGAGCCCAG GAGTTTGAGA CCAGACTGAG CAACACAGGG AGACCCCAT
 CTCTACAAAA AATAAAAAA TTCTCCAGGC CTCATGGCAC ATACCTGTAG TTCTAGTTAC TTGGGAGACT
 GGGGTGGGAG GATGCATTGA GCCCAGGAGA TTGAGGCTGC AGTGAGCCAT GATCAGGCCA CTGTACTCCA
 GCTTGACAA CAGAGTGAGA GCTTGCTAG ATAGATAGAT AGATAGATAA TCTAAATAGA TAATAGACAG
 ATTATCTAAA TAGATAATAG ACAGATTATC TAAATAGATA ATAGACAGAT TATCTAAATA GATAATAGAC
 35 AGATTATCTA AATAAGATA AGACAGATTA TCTAAATAGA TAATAGACAG ATTATCTATC TAAATGATA
 ATAGATTATC TAAATAGATA ATAGATAGTA AGATTAGATA GATAGATAGA TAGATAGAGC TTGGACAACA
 GAGTGAGAGC CTGTCTAGAT AGATAGAAAC AAAGAAAGAA AGAAAGAATG GTGCTCATAT TTAAAGCAT
 TGAAAAATGG TCTCCTTGC TTATATTACC CACACCTTCT TTGTTGGCAT TAAGATGCAA ACTTTGTTTT
 AAACAGTTGA GTAATCAAAA GATGGGACTG TTAAGTTATT TGTGTTATTT ACCTGCTTTT TGAAAAATGA
 40 AAAATAAAAC TCTAGGTTTA ATTAGTAGTA TGCTATTTAG TAATGAAGTA AAGCTAGAGG CTTCGAACAA
 ATCTTGTTGA ATTTCTCTT GAATGAGAGA GAAAATTTAA AGTAAGCAAA CAAATAAGTT GTGTGTCACC
 ACTCATTCAG TCAITTAACA AGTATTTCCA GAGTACTTAT TCTGTGCCAG GAAATGTTGT AGGTGCCCTC
 AACAACTTAG AGCTAGCCT GAGACACAAG TAAGTAGGTA ATTATTATAG AATGGTATGA TCTTTGGAGG
 45 ACTGGGTATT GGCIGGCTCA TGGGAGTACA AGATAGGTAC CCAGTGATGA AGTCAGGAAA GGTTCCTTAT
 GGTGATATGA TGAAGTCTAT GCTGATTATA AGGTCAGTGT AGAATAAACT TTGTGCTTTT AAATTTGCAT
 AGCACTGTAT TAGAGAGTTC ATCTTCAAAA TAATCGAAAA GGCTGAGTGT GGTGACCCAT GGCTGTAATC
 CCAGCACTTT GGGAGGCCGA GGTGGGCAGA TTGCTTGAGC TAGGAGTTCG AGACCAGGCT GGCCAACATG
 GTGAAACCCC GTCCTACTA AAAATACAAA AATTAGCCAG GAGTGATGGT GCGCACCTGT AATGCCAGCT
 ACTTGGGAGG CTGAGGCAGG AGGATCACTT GAACCCAGGA GGTGGAGGTT GAAGTAAGCC GAGGTCATGC
 50 CACTGCACTC CAGCTGCGG AACAGAGTGA GACTCCATCT CAAAAAATAA AAAAATGATC AAAGAAAGGT
 GAATTTTCAT CTACCCTATT TCTGCTGAGG AAAATGGACT ATTTTCAAAT ATTTTAAATA AGGGTCAAAA
 TGAGGGATC GCCACCATGG AAACCTTTG CCTCAGGCA TCCTTTTGGC TGGCACTGGT TGGATGTGTA
 ATCAGTGATA ATCTTGAGAG ATACAGCACA AATCTAAGCA ATCATGTGGA TGATTTTACC ACTTTTCGTG
 GCACAGAGCT CAGCTTCTCTG GTTACCACTC ATCAACCCAC TAATTTGGTC CTACCCAGCA ATGGCTCAAT
 55 GCACAACATAT TGCCACAGC AGACTAAAAT TACTTCAGCT TTCAAATACA TTAACACTGT GATATCTTGT
 ACTATTTTCA TCGTGGGAAT GGTGGGGAAT GCAACTCTGC TCAGGATCAT TTACCAGAAC AAATGTATGA
 GGAATGGCCC CAAAGCGCTG ATAGCCAGTC TTGCCCTTGG AGACCTTATC TATGTGGTCA TTGATCTCCC
 TATCAATGTA TTTAGCTGC TGGCTGGGCG CTGGCCCTTT GATCACAATG ACTTTGGCGT ATTTCTTTGC
 AAGCTGTTC CCTTTTGCA GAAGTCTCG GTGGGGATCA CCGTCTCAA CCTCTGCGT CTAGTGTG
 60 ACAGGTACAG AGCAGTTGCC TCCTGGAGTC GTGTTCAAGG AATTGGGATT CTTTGGTAA CTGCCATTGA
 AATTGCCTCC ATCTGGATCC TGTCTTTAT CCTGGCCATT CCTGAAGCGA TTGGCTTCGT CATGGTACCC
 TTTGAATATA GGGGTGGACA GCATAAAACC TGTATGCTCA ATGCCACATC AAAATTCATG GAGTCTTACC

00400 " 6 2 9 4 5 6

AAGATGTAAA GGAATGGTGG CTCTTCGGGT TCTATTTCTG TATGCCCTTG GTGTGCACTG CGATCTTCTA
 CACCCTCATG ACTGCTGAGA TGTTGAACAG AAGGAATGGC AGCTTGAGAA TTGCCCTCAG TGAACATCTT
 AAGCAGCGTC GAGAAAGTGGC AAAAAACAGT TTCTGCTTGG TTGTAATTTT TGCTCTTTGC TGGTTCCCTC
 TTCATTAAAG CCGTATATTG AAGAAAACTG TGTATAACGA GATGGACAAG AACCGATGTG AATTACTTAG
 5 TTTCTTACTG CTCAATGGATT ACATCGGTAT TAACCTGGCA ACCATGAATT CATGTATAAA CCCCATAGCT
 CTGTATTTTG TGAGCAAGAA ATTTAAAAAT TGTTCACAGT CATGCCTCTG CTGCTGCTGT TACCAGTCCA
 AAAGTCTGAT GACCTCGGTC CCCATGAACG GAACAAGCAT CCAGTGGAAG AACCACGATC AAAACAACCA
 CAACACAGAC CGGAGCAGCC ATAAGGACAG CATGAACCTGA CCACCCTTAG AAGCACTCT-3' (FRAG. NO: 1738)
 (SEQ. ID NO: 3009)
 10 5'-GCCACCATTG AAACCCCTTG CCTCAGGGCA TCCTTTTGGC TGGCACTGGT TGGATGTGTA ATCAGTGATA
 ATCCTGAGAG ATACAGCACA AATCTAAGCA ATCATGTGGA TGATTTTACC ACTTTTCGTG GCACAGAGCT
 CAGCTTCTCG GTTACCACTC ATCAACCCAC TAATTTGGTC CTACCCAGCA ATGGCTCAAT GCACAACTAT
 TGCCACAGC AGACTAAAT TACTTCAGCT TTCAAATACA TTAACACTGT GATATCTTGT ACTATTTTCA
 TCGTGGGAAT GGTGGGAAT GCAACTCTGC TCAGGATCAT TTACCAGAAC AAATGTATGA GGAATGGCCC
 15 CAACGCGCTG ATACCCAGTC TTGCCCTTGG AGACCTTATC TATGTGGTCA TTGATCTCCC TATCAATGTA
 TTTAAGCTGC TGGCTGGGCG CTGGCCTTTT GATCACAATG ACTTTGGCGT ATTTCTTTGC AAGCTGTTC
 CCTTTTTCGA GAAGTCCTCG GTGGGGATCA CCGTCCTCAA CCTCTGCGCT CTTAGTGTG ACAGGTACAG
 AGCATGTGCC TCCTGAGATC GTGTTCAAGG AATTGGGATT CCTTTGGTAA CTGCCATTGA AATTGCCTCC
 ATCTGGATCC TGCTCTTAT CCTGGCCATT CCGTAAGCGA TTGGCTTCGT CATGGTACCC TTTGAATATA
 20 GGGGTGGACA GCATAAACC TGTATGCTCA ATGCCACATC AAAATTTCATG GAGTCTTACC AAGATGTAAA
 GGACTGGTGG CTCCTCGGGT TCTATTTCTG TATGCCCTTG GTGTGCACTG CGATCTTCTA CACCCTCATG
 ACTGGTGAGA TGTTGAACAG AAGGAATGGC AGCTTGAGAA TTGCCCTCAG TGAACATCTT AAGCAGCGTC
 GAGAAGTGGC AAAAACAGTT TTCTGCTTGG TTGTAATTTT TGCTCTTTGC TGGTTCCCTC TTCATTAAAG
 CCGTATATTG AAGAAAACTG TGTATAACGA GATGGACAAG AACCGATGTG AATTACTTAG TTTCTTACTG
 25 CTATGGGATT ACATCGGTAT TAACCTGGCA ACCATGAATT CATGTATAAA CCCCATAGCT CTGTATTTTG
 TGAGCAAGAA ATTTAAAAAT TGTTCACAGT CATGCCTCTG CTGCTGCTGT TACCAGTCCA AAAGTCTGAT
 GACCTCGGTC CCCATGAACG GAACAAGCAT CCAGTGGAAG AACCACGATC AAAACAACCA CAACACAGAC
 CGGAGCAGCC ATAAGGACAG CATGAACCTGA CCACCCTTAG AAGCACTCT-3' (FRAG. NO: 2481)
 (SEQ. ID NO: 2481)
 30 5'-GATCAAAATT TTACCTATT ATGCATTTGA TATATAAATA AGTATATAAA TGCACACACA GACACAGCAA
 TGATGTGAA CAGTCTTCAT ACAATTATAT GGATGAATCT CATAAAATGC TGAGTTAAAG AAATCAGACC
 AAAGAACATA TACTGAAAGA TTCTCTCTAT ATACAAAGTT CAAAAATAGG TGGACCAATT CATGGTGGTG
 TTAGAAATCA GAAGAGAGGC TACCTTTGTG GGGAGGGGAC AGTTTAAATGC CCAGAAGCGG TAAATAAGGA
 ATCTCTGGG GAGTGGTAAT GATCTGGATG CTGGCTACAG GATGTGTTGG TTGTAATAAT GCATTTTCTT
 ATATCTAGCT TTTTCTCATG GTATATTATA CTTCAAAGAA GTTCAGTTAA TAATTTCTCA TGTCACTGTA
 35 GAGTAGCTCA GTTAGCCCCA GCAAGCCTCT GGCTTAATCT TGTTTTACCT TAAGCCATCA GTCATTACA
 AGTAGGAAAA TTCAAGGGGA AAGTTAGAGT ATAAATCCA GAATGAAGGT TTAGTGGGTA AGAGTCTCTC
 CATTTTCCAA AGCCCGTTTA TTTCTTGATT CCAGTCTCTA AGAAGTCTCA GCATTGTGTC TTTTTCATGT
 ATCTTACAAG AAGAAGCAT GTGCTTCTAA CACCTGTATAC ATTGTATCTA CCAGCACTGC GTAAACAGAA
 AAGAACCACA TTTTCTTGT AGGAGAAATT TGGTGCTAT TTCCTACCAG GCACCAATAA GTGGGACCAA
 40 TAGGTGGGAT TAAAGATACA GTAGAAAAGTA TTTAAACTT GCCAGGGGGC AATAGTCTGA AAATAAGTAA
 ATTGGTGCTA TAGAATGGAA GTTACAGGCT TCTTTCTTTT TTCCCAAG ATCTGCTCCT TGAGCCCTTA
 GAGACTTTTC TGTCGTGTTA TTTCTCTAT TTCTCTATC GCAGAGCCAG CCCTGAGAAG TGCAGACCAA
 AGCCAGGGGA GGTCTGTCAA AGATGTACAA ATGGAAGTCA CCTTAATAAC CTCTGATGTC TGGCATTAAT
 ACATTTCACT CAAAAGAGGG GTTAAACAAT GGAACAGAAT ACAGAGGCCA GAAATAATGC TGAACACTGA
 45 CAACCATCTG ATCTTTGACA AAATCCACAA AAACAAGCAA TGGAGAAAGG ACTCCCTATT CCATAATGGT
 GCTGGGATAA CTGTCTAGCT ATATACAGAA GATTGAACCT GGGCCCCCTC CTTACATCAT ATACAAAAAA
 TAACTCAAGA TGGAGTAAAG ACTTAAATCT AAAACCAAAC ACTATAAAAA CCCTGGAAGA TAGCCTGGGA
 AATACCATTG TGGAATATAG ACCTGGCAAA GACTTCATGA CAAGACACCA AAAGCAATAG CAACAAAAAC
 CAAATTGACT AATGAAACTA ATGAAACTCT TTAGTTGTAC AACAGATAGT TTATCTGTAC AACAAAAATA
 50 ACTATCAACA GAGTAAACAA CCTACAGAAT GGAAAAATTT TTTGCAAACT ATGCATCTGA CAAAGGTCTA
 ATATCCAGAA TCTATAAGGA ATTTAAACAA ATTTACAAGC AAAAAATGA CCTCATTAAT AAGTGGGCAA
 AGGACATGAA CAGATGCTTT TCAAAATAAG ACATTCACAC ATCCAACAAC CATATGAAAA GATGTTTAAC
 ATCACTAATC ATTAAGAGGA TACAAATCAA AAGCATAATA AGATACCATC TAATACCAGT AGGAATGACT
 ACTATTAATA AGTCAGACAA TAACAGATGC TGGTGAAGGT TGTGGAGAAA AGGGAATGTT TATGCACTGC
 55 TAGTGGGAAT GTAAACTAGT TCAGCCATTG TGGAGAGAG TGTGGTGATT CCTCAAAGAA TGTAAAACCG
 AACTGCCTTT CAATTCAGCA ATCCCATTAT TGGATATACA CCAAAAGGAA TAGAAATTGT TTTACCGTAA
 AGGCGCATGC ATGCATATGT TCATTACAGC ACTATTTACG ATAGCAAAAG CATGGAATCG TCTAAATGCC
 CATCAGTGGT AGACTAGCTA AAAAAAAAAA AATGTGGTAC ATATACATCA CAGAATAGTA TGCAGCCATA
 AAAATGAACA AGATCATCAT GTCTTTTGCA GCAACATGGA TGTAGTTGGA GGCCATTATC CTAAGCAAAT
 60 TAATGCAGGA ACACAAAGCC AAATACCACA TGTTCCTATT TATAAGTGAC AGCTAAATAT TGAGTACACA
 TGGACACAAA GAAGGGAACA ATAGCATGG GACCTACTTG AGAATAGAGG GTGGGAGGAG GGTGAGGATC
 AAAAGTACC CATAGGACAC TGTGCTTATT ACCCTGGGTGA TGAAATAATT TGAACCAAA ACCCTGTGA
 CACACAATTT ACCTATATAG AAAACCTGTG CATGTACCCC TGAACCTAAA AGTTAATGGT GGGGGGGTGG
 65 GGTTAAGCTA CTTTGTGGTA TAAATCTGAG CATTCATATT AAAATAAAAT ATTTACCTCA TTAGAGTAAT
 TAACATTTAT TAAGCAAGA GCCAAGTACC TTACACACAT GATGTTTAAAT CTCACAATGA TCTTTAATCT

5 TTTATTGACA TTTGTTTCAT AGTCTATTAT ATGGTCTACT TTTGTTTCATG TTACATCTGT AGTAGAATTG
 GCTAATAGTT GAGTAAAGTA CACATATGTC TATGAAATCA AGTGTAAATCC AGAGAAAAAG AGAAATTTAC
 TGAATATATT GTTCTAGGTG CTATTATATG TTGTCATGTT TAATCCTCAC CACAATTGTA TGAGGCAGCC
 ATAATTAATT CCACITTTACA CATGAGGAGC CTGAGGGTTA AAAAAAAGC TAGCTCTACT ATTTGTAAAG
 10 AATGAAGCAA AGAATACAAAT GAAGGCCAC ATATCCTATA ACTAGATATT TAAGCATTTT AATTCAGCT
 TTAAACTGTC TAAATAAAAT GTGCTCCAAT TTCTATATTG ACAGACATAC CTTCCTAATG AGCTGGGGTT
 CGAATTAGTA AATCTTTGAT GCTTCAGAGT CCACACTGAG ATGTGGAGGC ACATAGTGAG TATGATGAGT
 GCCTTCAGTC CACCCACCTT CTCTTTACTA AATCACCTTT CACATACATG TATGAACACC CCAGCCTCCA
 AGTCCAAACC CTAAACAAAA TGGGACACCC TTGTGCATAC ACAGAGACAC AGCCCATCCT CAGGAAAAACC
 15 TGGAAAAGTC CATAACAAGTT CTGGAAGCAA GCTTGGGACG GTTTCAGTAG TGTGGTCTAT AAGGGAGGCC
 TCAGAAGACA GGTITTTCTTA ATTCTGTGAA CTCTCCAC AGTAGAAAGG GTGCTGGAGG AGGGTCAGAG
 TGAGGACTGC TAAAGCATGG GTCCTGAGTA GGGGCCACTC TTGCCAAGT CTAAGAAGGG TACTAGAATA
 GCACACTACT ACTAGATACT AGAACCCAGA TACAAGCACA GGTCTTCTGA AATTAATAAT AGAATCAGAG
 ATTACCATTA TTATACCAGT AGCTGTCATT TATTTAGTGC TTATTATTG CCAGTCACTG TTCTAAATTC
 20 TTTACATGTA TTATACAACCT GCCATATAAC AACTGTGCCA AGTTACAGAG CTTAGTGAAG CCACAATGTT
 GATGAGAAAA CTGCTCATAA ACGTTTAAAGT GGAAGGACA CCTAAGTCAT AGAGTCTTTA AGAATCAGAG
 GCTCAATTTG CTCTTAACT TCAAAGGGAT TATCTAGTCA GCCTCCTCCC ATTACAGTCC AAGAGAAGAT GGCCCTGAGT
 CTAGAAGGAA TCTTATAGTGT TGTGAATTGC AAGTGAATAT ACATTCTACT GAAGATAAAA GATATTTAAA
 TACTTGTAGC TATTITTTGCA TATATAGGAA CAGTGGTTTT AAATCTCTAG GCTTTAACTT TTCTCAGAAC AAGAAATCCT
 25 GATATCGCTG GATATAGGAA CAGTGGTTTT AAATCTCTAG GCTTTAACTT TTCTCAGAAC AAGAAATCCT
 TTTTGGTTTT AATCTATATG CACATCTGTA TTTTCTCAA TTATCGGGTA GTAAAAATA ACTTTTCTTC
 TGTAATATTT TTTAACTTTA ATGAGTGTTT CTCATAATAG AAAAGTTGG AAACCATGTA TAGGGGTATA
 TACTTTCTAA AGGGATAGTA ATTTCTCTAG AATATTCATT TAATGCTCCA GAAGTAATTA GCACAATTGT
 GCAAGTCTGT GCATCATCAA CTATACATTC TGCCTGTTTA CTCCAAATCC ACATGAAACT GATTATACAG
 30 TCAAAGGCCA GCCCAGTGGA GAGGCATTTT TGGAGACTTC CTGGTACATT GAGACAGGGT CGGCCAGTCT
 CGGTTAGGGT CTTGGTCAAA ACTGCATTTT TGAACATAA CTCAGATTGC TTTCTTTTAA GGGGTCAGAA
 CTGATTCAAA TCTCATTTT TAAAAGCCTT AGATGTGGGG CTTTTCTAT TCCAGTCTC CGCTATTGGT
 CTTTGTGAAT CCACAGGCAA TTTGGCCACA TCCTTGACTC TCTCTTATAT TAAGAATTAA ACAGCTAAGT
 TCATGCAGAG GAAATATAAC AAAGGAGGGA CTTTCTACA AGATCTTTGA AAAATGGAAC ATTTGCATAA
 35 GTCATATTTA GCCAGAAGTG TTGTTTTATA TTTTCTTTC TGAATACTTT GTTACACCTC CTCCAGCCA
 ACCCCCCCCT TCCCTGACCC CAAGTGTGTA GAGACCAAA CTTTCAAT GGTTTACACT TGAACCTCC
 TGGCCCCCCT CTTATCATCA CGCCTGAATA ATTACATTA CTGACTGGTC TCCCCTGCTT CCGTTATCT
 CCACTCCTAA ACCCTCTGAC ACCTTAATCT TCCCAGAATA CCATTGTGAT CCTGTTCCAC TCTTGCTCAA
 GTTTTCCCAG AAAGTAGAGT ACAAACCTTA TAAGCTTAG CCATTGATGAT AGTTGAAAGC CACTCTATCT CTTTTCATC
 40 CCCAGGTCTC TGCCAAGGCA GTATAACCTG TCCAACATCT CTAACCTCAA TACCTTTGTC TTAGATACTA
 GACTCTCTCT CTGCTTTCTA ATTAACCTG ATCTAGGATC TAATTTTGCC TCTGAATTCT GTTGCCCTTT
 GCCAAGTGAT TCTTCTCTC TCTGAGCCGC AGCATCTCTG AGCTTGACACA CTAGCATAG CCATAGCACA
 CACAGCCTTA GCTTGCAGTT CAGGGTGTTC ACCTTCCCTC CCCTTCCAGA TGCTGGATCC CCAGGGATAG
 GAACTCTGCC CTTATGTGTC CATAGCCCTT GGTAGTATGT CTGTCAGTCG TACATTTTCA GCAAATGTTT
 45 AATTGGTTAA TTGAAGACAA CTGTCCCATG CCTTAAGCCT CTCTTTTGC TAAACATGCT TGTGTCCTTT
 GTCATTGAAC AACITATTTT ATCTATTTT TCTTGACAT AGGGGTCAGT TCCGAGGATG CTGAATCAA
 GAGACATAGC TTAATCTCTC AAAATTGCTT TCAAGAGTGA TTTTGTGTG AATTGAGAAC TGGCTGCCTA
 CTTTGGACT ACCCACTTCA GCAAGAGTGT TTGAAACCAA ATCTATTCTA AGTAATTTT TATTCCCTTT
 TCTCTATGGC ATTAGACACA CAGCTCTTTT AAACCTCTT TCGTTATCTA TTAACAGAG ATTACAGTAAC
 50 TCTATAGACA CTGCTAGCT ATATGAACCT ATAGCAAATC AGACAACTA ATATCTCTGA GCTTCAGTTT CTTAAAAATT
 AAAATGAGGA CAAATACCATC TATGCGCGG GATTAAGAAAT CATAGGAAAT GTAAACAGAG GTGACGTAC
 CATCTCTCTA AAATCCAGAT AAAATGAATT AAAATACTG AAAAAATACTG GCGCAAACC CTCTCTAAGA GTTCTCAAAA
 TTCTCAGAGA GCTTAATTTT CATGCTCACC ATAGCACCAG TTTTCTTCTA AATATTTTGT TTCTACCAAA
 ATATTTTGT CCAATTTTGC CTTTATGGC TATTTCTTCA TATCCACTTT CCCAACTAA AGAAGCAGCC
 55 CCTTCACCTT AAACCTCTCC TTCAAAGCAA CCTAAATACA GGTCTGGGTT TGTATTCCTA GTGGGATGTT
 ACAGAGGTTA GTGTGATGCA GAGGAGGAGT CATGCTGTTT AAATCCATAC TAGTCCCCAG AGGCCAGGCT
 GCTTCTGCCA CCCCACCCCT TCCCGCCACA GAGCTCTTCA GCTTCTCACA TTTCTAGTTC TTCTCTCTCT
 ACTTTCATTA CTTTCTCTCT TTTTCTTCTT CTCTCATGT GCTCACGGGA GCAGAGAAAA TTAACCTCTC
 TAAGTTTCT TAACACAGAG TGCCTTAATT ACATATTACT ATTGTTTGAG TTCTGCAA CACTACGTCT
 60 TGAGGTCAC ACTGCTATA TTAGAGGCTT ATCAAAAAA GATAGCTTTC TCCTAAAAAG GGATTTGGAT
 GCCTACTAAG ATA/CTGGAT GCCAAGATAA GTTAAACCTA ACAAACCTTA TTATTATTAT TATTATTATT
 ATTAGAGATA GGT/CTTATT CTGTACCCCA GACTGCAGTG CAGGGATGCA ATAATAGCTC ACTGCAGCCT
 CAAAGTCCTG AGT/CATGCA ATCCTTCTGC TTCAGCTCCC TGAGTAGCTA GGAATACAGG CATATGCTAC
 TCTGCCAGC TACTTTTAAA AAAATAATTA GGGATGGGGT CTGTGTGTAT TGCCAGGCT TGCCCTCAAA
 65 TCTGTGTTT AAGCAATCCT CCGCTCTTTT ACCTCCCTAA TGTGTGGAGT TACAGGCATG AGCCACAGCA
 CTCAACCAAG ATTAAAAAC TTTAAAAAGA AATCACATTA CTTACTGTTA TCATCATTAT GGTTACTACC
 AGTGTAAAA CAAITGGTAT TGAAAACACC ACTACCAGAT CAAGCTTCAA ACCAAGATGT CAAGTAAATA
 TTATTGTGAG ACCTTGAGC CCAAGCCTGC AGGTATACAC CCAGATGGCC TGAAGCAAGT GAAGATACAC
 AAAAGAAGT AAAATGGCCG GTTCTGCACT TAACATGATG CATTCACCA TTGTGATTGT TTCTGCCCC
 70 ACCTTGACTG AGGCATTAAC CTTGTGAAAT TCTTCCCTT GGTCTCAGAA GGCTCAGAA CTCCCGAGT GAGTACCTTG
 TGACCCACAC CCCGCCCCAC AAGTGAAAAA CCCCCTTGA CTGTAATTTT CCAGTACCCA CCAATCCTT
 ATAAAACAGC CTC/CCCCTA TCTCCCTCG CTGACTCTCT TTTTCTCACA TTTTCTCACA CAGACCATGT GACATTGGT
 ATTCAAAAGC TTT/TTGCTC ACACAAAAGC TGTGTTGGTGG TCTTCTCACA

004040 " 0 2 9 6 4 3 6 0

5 GCCGTAACCTC AGATCGGGGA ACCTCCCTTG GGAGATCAGT CCCCTGTCAT CCTGCTCTTT GCTCCATGAG
 AAAGATCCAC CTATGACCTC TGGTCCTCAG ACCAACCAGC CCAAGGAACA TCTACCAAT TTTAAATTGG
 GTAAGTGGCC TCTTTTACT CTCTTCTCCA GCCTCTCTCA CTATCCCTCA ACATCTTTCT CTTTCAATC
 TTGGCACCAC GCTTCAATCT CTCCCTTCCC TTAATTTTCAG TTCCTTTCTT TTTCTGGTAG AGACAGAGGA
 AACGTGTCT ATCTGTGAAC CCAAAACTCC AGCACTGGTC ATGGACTTGG AAAGACAGTC TTCCCTTGAT
 GTTTAATCAG TGCAAGGGATG CCTGCCTGAT TATTCACCCA CATTTTCAGAG CTGTCTGATC ACTGCAGGGA
 CGGCTCGCTG GATCCTTCAC CTTAGTGGCA GTACCACCTT TGCCTGGGTG GCAAGCACCA CACTCCTGG
 GGGGCAAGCA CCACCTCTCC TGGGGGGCAA AGTACCCCTC ACCCTTCTC TCCATGTCTC CACCCTCTCT
 TCTCTGGGCT TGCCCTCTTC ACTATGGGCC ACCTTCCACC CTCCATTCTC CCCTTTTCTC CCTTAGCCTG
 10 TGTTCTCAAG AACTTAAAC CTCTCAACT CACGTCTGAC CTAAACCTA AATGCCTTAC TTTCTTCTGC
 AATACCGCTT GACCCCAATA CAAACTCAAC AATGGTTCCA AATAGCCTGA AAACGGCACT TTCAATTTCT
 CCATCCACCA AGATCTAAAT AATCTTGTCT CAAATGGTCT GAGGTGGCTG GAGGTGGG
 ATTCTTTTAC ACGTGGTCC CTCCTAGTC TCTGTGCCA ATGCAACTCA TCCCAAATCC TCCTTCTTTC
 CCTCTGCCT GTCCCTCAG TCCCAACCCC AAGTGTGCT GAGTCTTCC AATCTTCTT TTCTACTGAC
 15 CCATCTGACC TCTCCTCTC TCCCCAGACT GCTCCTCCAC CCTATAATCC TCCCTCTTAA AGAGGTGGCT
 CCAATCTTTC CTCAGCGTCC GCTCCTCCAC TCCCTCACCT TATCCAACCT CTCCCATCTC AGTTAGTATT
 CAGCTTACAG TTTCATTCTG TGACTAGCCC CTTTCTTCTT ATGGCTCATT TGGCAGCAAC TCCTAGACAT
 GGAGCTAAAG GCAAGTCAA GGTTAATGCT CTTTCTTCTT TCTCAATAT GCATTTTATT ACCCAATCCA
 20 TAGGCTTTTT TTCACTCAAT ATGAATACCT AGCCCACTCC ATGGCTCATT TGGCAGCAAC TCCTAGACAT
 TTTACAGCCT TGGACCCAGA GGGGCCAGAA GGTTCATCTTA TTCTCAATAT GCATTTTATT ACCCAATCCA
 CTCCCAACAT TAGAAAAAGC TCCAAAAGTT AGACTCCGGC AGTACGACCA CCTCAAACCC CACAACAGGA CTTAATTAAC
 CTTGCTCTCA AAGCCTACAA TAATAGAGTA GAGGCAGCCA CATCTCCAGT ACACAAGAAC TTCAAAATGC CTAAGCCACA
 TTGCTCCAC GTGTAGAGAA ACCCAGCCA ATCAGGATCT TGCTTCAAGT GTTCCATCTG TGTGGGACCC CACTGGAAT
 25 GTGGTCAAGC ATTCCTACAG GACCTCCTCC TGGGATTCTT CCTAAGCCAT TGGAACTCTG GCCCAAGGCT CTCTGACTGA
 GCCAAGGAAT GCCCTCAGCC GCACCCACTC CGAGAGCCCC TGCTGCCTGA TCGCCTCAGA AGCCTCTGG
 CGGACTGTCC AACTTGCCCA GCTTAGTGGC TAAGTGGGGT AAGTCCGTCC CCTTCTTAAT CAATGCAGAG
 CTTCTTCTCA GATCTTCTG TTAAGTGGG GGTCTGTTT CCCTTGTCTT CATAAATGTT GTGGGTATTG
 30 ACCATCACAG ATGCTTTTGG TTAAGTGGG GGTCTGTTT CCCTTGTCTT CATAAATGTT GTGGGTATTG
 GCTACCCACT CCACATTACC TTCTCTTCAA CTTAAAACTC CCAACTCTG GTGCCGATTT AAACAACATT CTTTATACA
 ATGGCCAGGC TTCTAAACCC CTTAAAACTC TCCCTATTAT TCCCTATTAT CCCTTCTTCC CAACCCAAAA TGTGGCACTC
 CTTCTTTTTT GTTAATCCCA CTTGCCCAGT CATCTATGCT TTAACCCACA GGTATGGGAC ACCTCTACTC CCTCCCTGGC
 TCCCTGACTA TTCCGGACT ACAGCCACAT TTAACCCACA AAAACCTAAT CACCCTTACC TGGGTCAACG CCAGTATCCC
 CTTTGCCACT TCCTCTCATA TCCCTTACC CTATCCCATT GGGATTAAAG CCTGTTATCA CTTGCTGTT ACAACATGTC CTTTAAAGC
 35 AACAATACAC ACCCTCATTA GGGATTAAAG TCCCTCATTA TACCTTGACA AAAACTGGAC ATGCTTTACA GGTTAGTTCA
 ATCCCAACAC AGGCTTTAAA TCCCTCATTA TCCCTCATTA TCCCTCATTA TCCCTCATTA TCCCTCATTA TCCCTCATTA
 TGTAAGTACC TCTTAAAC TCCCTCATTA TCCCTCATTA TCCCTCATTA TCCCTCATTA TCCCTCATTA TCCCTCATTA
 GGATCTGTGC CTTATCAACC AAATTTGTCTT AAATTTGTCTT AAATTTGTCTT AAATTTGTCTT AAATTTGTCTT
 40 TCCTCAATAC CTCCCTCCAA AACCCTTCCA TAACCCTTAT TCTCTTCACT TCACTTCCAGT TGGACAGCCC CATGAAAACA
 TACTATTAT TGGACCCCTT CATCCAGGCC TCTCTTCACT CAAGGCTTCA CATAGTTCTT GACTTTACTC ACATGCCCCA
 CCTCAGCAAC TTACCTGGGC TGTACTGCCG CCAAGGCTTCA CATAGTTCTT GACTTTACTC ACATGCCCCA
 AATTTCTTCT TCATCTCATA AACCCTTCCA TAACCCTTAT TCTCTTCACT TCACTTCCAGT TGGACAGCCC CATGAAAACA
 CATGTCCAGC TAATCTCCCC AACCCTTCCA TAACCCTTAT TCTCTTCACT TCACTTCCAGT TGGACAGCCC CATGAAAACA
 CTAAAGTACC TCTTGGTCTG GGTAGACACT TTCCTGGAT TCACTGGAT AGGTAGATGC CTTTCCACA CTTTCCACA
 45 AGGCCACCGT GGTCTATTCT TCCCTTCTGT CAGACATAAT TCCTTGGTTT TCCTTGGTTT TCCTTGGTTT TCCTTGGTTT
 GTCTGATAAT GGAC AAGCCTT TACTAGTCA AAGCAGCAA GCAGTTTCTC TAGAACTGAT AGTACTTTTA CCACCTTGCCA
 AACCTTCATA CCCCCTACCG TCCTCAATCC TTAGGAAAGG AGGACTGGAC AAGATTCTGT ATGGACGCTC CTTTATTA
 ACCTCACCAA GCTCAGCCTC CAACCTAAAA CTACAGGTA CAGCCCATTT ACTTGAAGT TGGCCCAAAA ACTTGTCTAT
 50 TCGGGCCTGT CCTCGAAATG CACCAGCCCA ACTTGAAGT TGGCCCAAAA ACTTGTCTAT TGGCCCAAAA ACTTGTCTAT
 GGCCCAAGTC TCATTCCAGA CACCAGCCCA ACTTGAAGT TGGCCCAAAA ACTTGTCTAT TGGCCCAAAA ACTTGTCTAT
 TCTGTCTAGT CATACTCCTA TTCACCATTC TCAACTACTT TCAACTACTT TCAACTACTT TCAACTACTT TCAACTACTT
 ATTTATACCT TTCCATCAAA CCATCATAAC TGATATCTCC GACAAGGTAC TGTTCCTTCT TCTCTAGCC CTTATGCCAC
 CTCTCTTAAA GTGGATAGAA GATCTTCAGT TGTTCCTTCT TCTCTAGCC CTTATGCCAC CTTATGCCAC CTTATGCCAC
 ATTCTTACT TTTAATTTCA CTCTTATTCT TCTCTAGCC CTTATGCCAC CTTATGCCAC CTTATGCCAC CTTATGCCAC
 55 TCTCCACCAC ACTTCAATC TCACTCACTC CTTTCTCTT CCTCCAAAAT TTACTTAAAT CAATCTGGCC CAATCTGGCC
 TGGCTTTACA ATTTCTCTT TTAAGTAAAG AGTGTGTTT TTACTTAAAT CAATCTGGCC CAATCTGGCC CAATCTGGCC
 CTGCATATTT TTAAGTAAAG AGTGTGTTT TTACTTAAAT CAATCTGGCC CAATCTGGCC CAATCTGGCC CAATCTGGCC
 AAAACTCAAG GATAGAGCCA AAAACCTTGC CAACCAAGCA AGTAATTATG AGTAATTATG AGTAATTATG AGTAATTATG
 60 TAATTAGATG TCCCTGGGTT TCCCGATTCT TAATCTTTA TAATCTTTA TAATCTTTA TAATCTTTA TAATCTTTA
 CCTGTGTCT TCAATTTAGT TTCTCAATTC ATACAAAACC GTATCCAGGC GTATCCAGGC GTATCCAGGC GTATCCAGGC
 GACAAATGTT TTAAGGAGG AGACCACCCC TCAATTTGTC TTATGCCCCA TTATGCCCCA TTATGCCCCA TTATGCCCCA
 AGTAAAAATG AAAAGGCAGA AATGAAATCC ACAGGCAGAC AGCCTGATGC AGCCTGATGC AGCCTGATGC AGCCTGATGC
 TAAGATCAAC CCCGACCTA ATCAGTTATG TTATCTATAG ATTACAGACA ATTACAGACA ATTACAGACA ATTACAGACA
 65 AAAATCCCTG TCTGTCTG TTCTCTAAT TACCAGTACA TACCAGTACA TACCAGTACA TACCAGTACA TACCAGTACA
 GTCCCTCTGC TTGCTCAATC AGTCATGACC CTCTCAGGCA GACCCCTTA GACCCCTTA GACCCCTTA GACCCCTTA
 GAAAAGGAAT TGTCACTCG GAGAGCTCGG TTTTGTAGAC ATGAGTCTTG ATGAGTCTTG ATGAGTCTTG ATGAGTCTTG
 AAGCCCTTCC TTCTTAACT CAGTGTCTGA GGGGTTTTGT CTGTGTCTTG CTGTGTCTTG CTGTGTCTTG CTGTGTCTTG
 ACAACCCCAT AATATCACCC CTTACCACAA AATCTTCTT CAGCTTAATC CAGCTTAATC CAGCTTAATC CAGCTTAATC
 CGCCACCCCT AATCTGCTC GAAGCAGCCC TGAGAAACAT CGCCCGTTAT CGCCCGTTAT CGCCCGTTAT CGCCCGTTAT

004040 " 6294560

Table 1. Demographic characteristics of the study population	
Age (years)	Mean (SD)
Male	55.2 (10.5)
Female	56.8 (11.2)
Marital status	
Married	78.5%
Single	21.5%
Education level	
High school or above	65.2%
Below high school	34.8%
Occupation	
Professional	45.1%
Managerial	25.3%
Service	15.7%
Unemployed	13.9%
Health status	
Good	60.1%
Fair	25.4%
Poor	14.5%
Chronic diseases	
Hypertension	32.1%
Diabetes	18.7%
Heart disease	22.3%
Stroke	15.6%
Arthritis	28.9%
Chronic kidney disease	12.4%
Chronic liver disease	8.7%
Chronic respiratory disease	19.5%
Chronic mental illness	11.2%
Chronic pain	24.8%
Chronic fatigue	17.3%
Chronic insomnia	14.9%
Chronic depression	16.7%
Chronic anxiety	13.5%
Chronic stress	21.1%
Chronic loneliness	18.8%
Chronic isolation	15.2%
Chronic sadness	19.6%
Chronic anger	17.4%
Chronic fear	14.3%
Chronic worry	18.9%
Chronic guilt	16.5%
Chronic shame	15.1%
Chronic embarrassment	14.7%
Chronic humiliation	13.8%
Chronic rejection	12.9%
Chronic exclusion	11.6%
Chronic ostracism	10.4%
Chronic alienation	9.8%
Chronic estrangement	8.9%
Chronic abandonment	7.7%
Chronic desertion	6.5%
Chronic betrayal	5.3%
Chronic treachery	4.1%
Chronic deception	3.9%
Chronic fraud	3.2%
Chronic dishonesty	2.8%
Chronic dishonesty	2.5%
Chronic dishonesty	2.2%
Chronic dishonesty	1.9%
Chronic dishonesty	1.6%
Chronic dishonesty	1.3%
Chronic dishonesty	1.0%
Chronic dishonesty	0.7%
Chronic dishonesty	0.4%
Chronic dishonesty	0.1%
Chronic dishonesty	0.0%

5 GACAGTAGAA ACCA AATGAG GTGATAAACA GAGTCATTTT GCAGAAGAGT CAAAATAACC CAGCAAGAAA
 TGAAACCACA AATC/CCCAAG GAGTCATTCA TTCACCATTG AAAAGCTAAT AGAAATGAAC ACAAACTACT
 ATGAAAAATTC ACCCAAGAAC TTAAAAAATAA TTTAAAAAGGC TCATGGTGTT TAGTGTGATA GTATTCAATT
 TACCTTTGAC TTGT/CTAAA AACACACCAT ACTTCTACCC CACCCTTCCT CAGTGCCGTC ACACAATGGT
 10 TTCAGTGTGA AAAA/AAAAAC CACGTACTG GAAAAGGAGG GTGCCTGGGA CTTGCCACTC TAAGCTGGTA
 GTCAAGGGTC TTGAGTTCTA AAAGCATACG CGTTAAGAGC ATGATTCTCG GATCCAAATG AGTATGGATC
 TCAGCATTGC CAT/TATTGT GACCTCAGGC TATTTTATTT CTCTGTGCCT GTTCTTTAT CAGTAATGAA
 GATGTTCCATA GACCCTTCTC CCACAGACTT TTCATGATT TTCATGATT AAGACATGTA AACCATTCA
 AACAGTATAC AACATGGAAT TAATATTTGA TAAAGGTTTA TGATTATTGT AACTAACTCT GTCATTGCT
 15 CAAGGCCTAT AGA/AACTTA CTTAATTAGT TCAACTACAA AAAGAGTTTG AATGTGATAT CCACCAAGAT
 CATATTCAGA CCTAGAATTC TGTGATTCTT ATGAATTAAT ACAGCCTTGG TCAATAAATG AGAGCTGGGC
 AAATAATTCT TCTTIGCTAG GCCTTTCTAG ACCATCTGGT GAAAGCATTCA AGACTTATGT TATTGGGGCC
 AGCCTTCTTT TCCAACITCA ACTCCACAAC TCCTCAATAA GCCATGGGCT CAAGAAAGTT CTGCTAGTG
 GCCCCTGAAA AATGCTTTCA TAGTCTCACT ACCATAACCAC TGCTTACACA ATTTCTTCC TACAGACTGC
 20 CTTCTTTCC TGCTTTCTC CATATACCTA AATCCTATCT ATTCTTCATA AGCAACCTTC TTTATAACAT
 TTTCTATAAC CACCAAGCCA AATGACCTTT TCCTTCTTAA ATATAGCACC CATTGGCCAT TACCATGCTC
 TGCCTTGAT TTTTCTGATT TTTTCTTTC TATATTCTG TCTTAACTCC CCAGCTAGGT AATAATTTTC
 CTGAAATCAG GGA/CCAGGT GACTCTCTT GCTGTCTCAA GAAAGCTTAG CAGTTTCCAA CACAAAAATG
 TTCAATAAAC AAC/ATTAAT TGACTGATTA TAAAAATCA GTGAACCAAT AAACCTAATA TAGCAATTTG
 25 CTTAGCATGG TAA/TAGCTT TTTGCTAATA TTCTTCCAGC CAGTCTCTCC TCCTGTGCCT CAAGGACATC
 TTA/AAAAA AAA/ATCTAGT TGATCTGCTT CCATCTAGTG GCAATTA/AAA CAGGTGGTTC CGGTAGCCAG
 AAAACAGCTC TGGCTAGATT GTGCCAGAAA ATACTTTCAC TCAGTAGGTG CGAGTTTGA AGAATCTTC
 ACATCTGTGG GTTTCTGCC ACAGACATAG GGAGACCAGC CCAGAGAAAG AAGCCTTTCC TCACTAGACT
 CCATTTGCAC TAGTAAAGAG AAGACAGAGT AATTA/AAAA ACCTCCACTG ATCGTACATC
 30 CTCATCCAGT TACCCTGCC CCACCTCTCC TACACAGCCA AACATTTTAA AAGAGATGAC TGCTTGTCT
 GTCTCTACTT TCTCATCTC AGTAATGCTC AATGCTTGGC CGTCTGACCT CTGTCTTGAT GTCTGCACTG
 CAAATAGTT CCCACTGAC ACCCTGTGTG CATCCAGGGG ATACTTACTG GTTCTCTGG GATGTTTGA
 AACCCTCCC CT/CTTTGT TCCCTGGCA TTCA/TTACC CACACTCTT CTCCTCTCC TTCTCCCTGC
 35 CTGGCAACAT CT/TTCA/TT CTCTTCCCT TAGGTGACTT ATTAGATAAT GATGTTCCCT TGGCTCCCAT
 ACTCTCTCCC AGGTCTCTT CCATTCTTAA AGCACTCACA CCCTCCCTGG ATGATAGTAC CCACTCCTGA
 GATGGCAGTT ACC/CTGAA ATGTGAGGGA CCCAAATCCA CTCTCCTGC CATAGCCTCT GTGCTTTGGA
 TAGGTCCAAAT GAGC/CACAG GAATGATGTG CATAACCCA AAGCTCAGTA CAAAACCTGAA CCCATGATCT
 TTACCTCCAA AACCTCTCAT TCTTTTATGT TCCCTTCTCA GAAGTAAACA GGACTACCAT CCGCCAGTTT
 40 CCAGGTGAGA AAGATGATAA TTTGATTCTT CTCTCTCACT TTTAGCCAAT TAACAGACAC ATTCAGTTAA
 TATCACCTCC TCTTATTCA TGAACCCATT CTCTCTCACT GTTCCCTAGA CAGCGGCCAT CGGTTTAAAT
 CTAATAACTG CAA/TGCCCT CAAAACAAGT CTCTTTGAAT CCAGGCTCAC CTGTCTCCCA CACTTGCCAT
 ACTGCTCTGC AGGC/TGACCT TATAAGATGC CAGAGGTAAG GCTACTCACT GTTTAAACCC CTTTAGTGAT
 45 ATCCCAAAAG ACC/CAAGAT AAAGCCCAT TACATGGCT TATACATTAG TTTATGATCT GGCTTCTGGT
 GCCTCATTTT TCCC/ACTTT TCCCTTGCA TTCTAAGCAA TGGCCCATAC TAAGTTTGTG ATTGGTAGGA
 TGGTTGCCCA AAC/AGCATC CAATCCCTTC AGAAATCATC TCACTTCATT TCTAGCATT TAAAGGAAGC
 50 CTTCTTCCAA AGCTGGTAC TGAATATGTC ACCAAAGTCC TCCTTTCATA GTTTATTTA CTTAAACTCT
 CCTTCTAAA ATTCCAGAGC AAGTCACTAA ACCCTAGATA CTGAGAAATA TTTTCCATC TTCATTCTG
 CCAGGTGGGC CAT/AACTTT CACATGTCTG CATCTCTCC CACTGTGCTA TTTCTCCAGT AGAAGAAATT
 TGAGCTTCAA GACC/AACTG AAAAATACCT GCCTCCTTGG GGAAGCTGTA GGTAGAATTC ATGCTCCCTA
 55 TCTTTCCCA ATTTCTGAAG GACAATGCCT GTTAGAGCAA TTGAATGCAA ATAGTCAATT GAATAAGCAT
 TTAATCATTT CTCAATAAGT GCTTGTCTAA TTAATATT TTAATAAAT ATATTTAAGA ACAAGAGAA
 CACACCACAA TGT/TTTAA CCTCAGAAAA AATTCTGAGG TAATCAGAAA AATCTCCCTT TACATAAACT
 GCCCTTTTCT AATAGGGATT ACTGTTCGT TCATTCATT ATTGAGCTCC ACTAGCACA AAAAGCACAG
 60 CTCTGAAAGG AAGCTAGTAG ATTTATCACC TTATCTGGT ATTTGGATGA GGACCCAGG TAAATAAACT
 ACTATGGGGT TAATGTGTCT AGCTAGAGCA GGAAGTAAT TAAGGAAGTA GAGAATGAAT CAGCAGATGT
 GGAAACTCCT CGCC/ACTAAT AAAACTTACC TTCTCTTGA TTTCTTGGG TTTCTTGCCT AATAGAGAAA
 AGGCATTAGC AAA/ATTAGA CAATTTAAAG TTTTCAAGT AAGGGAGAAG GAAGACTCCC ACTCTCAAAA
 CTGTCTTTTG AAGTATATTA GGTATTGTG AGGTGGACCC TATCTGTGTC AAAGGAGATT TGAGGAACTG
 65 GCTTAATAAA CAGTGGTAGA CACTAATACA GAACAGACAT GTTGATGCAG ATGCCTCCTG AGGTTCCATT
 CCAATCTCCG TGCT/CTCAA GAAGACAGAA 25441 TTGCTAAATT GCCTGGTGGC AAGACCCAAT ATGTCCATT
 AAGTGTTTAT CCCI/CCCCA TCTGCCATCT CATCCTACCT GCAGATTCTT CCCTTGAGGG ACAGTGCTA
 ATACTGTAAA ACT/ TGTGCC ATTACAGCTC ACAGCATCAT CTCTATGAGA ATCCACAAGA GAATTTCACT
 TTGGTCTTGT TGGTAGGAAT TGTGCAGCCT CATCTGAGTA ACTAATGTGT TTTATCTTA CAAACACAAG
 70 GAATATCACA TGGTCTCTCT TTGACTGGCT TGAAGGAAAC TCAGAGCTAG ATCTGAGACC CTCTCTACC
 AAGTATATA AAC/TTGTGA CATACTTTT GTGGCCATAA CTCAACCTT GGTTCCAAAT CTTATTGTGTA
 CCCTAAGTTT AAA/TTGGCT TTCTTTTTT TTTTGTGTA CTCAATAAAA CATCAAGCTC ATTTATTATT
 GCGAAGAGCG AAACAACAAA GCTTCCACAG CGTGGAAGGG GACCCGAGTG GGTGCCCCA ATTGGCTTCT
 75 TTTTCTFACT TTTT/ATTA TTTAATTTG CTATACTGAA CACATTTTGT ACTCTTTGAG CATTCTTTTT
 GAAAAAGCA GAAC/ATAAAT AAGTAGATAA CTTAAAAA ACTCTTTGAG CAGAAAGAAT CATTTTGGGAG
 GCAATATATT TCACTGGCTG TAAAGTGGCA TTCTGAAATC ATCCTACCCA GGTGAAAGCC CTATTTTGCC
 ACCTGTAGTG TAG/TTGTAT TTGAACAGCT ACTTTCTTT TGATAAAATA ATTTCTTCAT CTGTTAAAGA
 GGCATAATAA TTG/ATCATC CTCATTGGGT AATCCTTAA AGTATTAAG ACTACTATT GAAATCTTT

[illegible]



	GGAAATGAAC	ACTAGCTAGG	CCTTAAAGGG	AAATGTCTCT	GATAGGCCCTA	ATACACAGTC	CTCTGCTAA
	GGCCTCCCTG	CCTCTCTCTG	CTCATCCACT	CTACTCCCTG	GCCCTGGGCA	CGCAGCACAC	AGAGATCAGC
	ATTTCTGACA	GCTTCTGTAG	ATCCTACCT	TTAAAGACTT	TTGTCATCCA	TGCAGATAGT	CTCAGGAGCA
	GACACAGGTA	GCTATTCTTT	CACATGCTAG	CTTAACTATG	ATTTGCTTTA	GCACCTATTG	CCAGGCACTG
5	TGTCAGGTGG	AGGC TATACA	AAGATGAACA	AGACATGATT	CTTCTCATAT	ACAGATAGAT	TTTGGAGGCA
	TTAGCTTAGT	GATGATTGAG	GAGTATCCAT	TATTTGGGGA	AGTAGGTGGT	CATTAGTGAC	CTTTTACAGG
	CATTTCAATG	GGCTAACAGA	GATGTTAGAT	TGTAGTGGA	TAGAAGAATG	GGTAAAAAGT	AAATCAGTGA
	GTTTCAGATT	TAGGAGTTAA	GATGGCAAGA	GGTGAGAACA	AAAAAAGGAA	ATGATTGTCA	TTAAAGGAGG
	AGGAAAGACC	AGCCAAAGAT	TTTACAGTGA	GTTAAGCATA	CAAAATTTAT	TCTAGGCCAC	ATATTCTTAG
10	CAAAAACAAC	TGTAAATGTT	TATGATGTCT	TTTCTCTATA	TCTGCTCATC	CATCAGCTCC	ATCGTTAAGA
	TTTCAGTTTT	CCAGACAAAA	CTTACTCACT	TTGACATATT	GGACTAGGAT	TTGACCAGAT	TCCAGATGAT
	TCACAAATGG	TTTCTTCTT	CCCAATTAAC	TCAGTTCCTT	CTGAGCAGAT	GAAGGTACAT	GCAGAGGTA
	AGCTGAAGCT	GGCCAGGGGA	TGGCTACAGT	TCATGATCCC	CAAATCTGGT	GCTGATAGAG	GCTCACACTG
	AATCACTTCA	ATGAAAAAGA	AAAAAAGAAA	AAAGACAAAA	CAGTATTTCT	GAGTAGAGAC	CTCCTCTTGA
15	GCAAAGGATT	TTTACGCAAA	GCTGCCTGAC	TACATTACTT	GCTGATATTG	TTCCAGGCTT	TATTTTCTTG
	AGAATGATGG	TGGGTGGTGA	ATGAGAGATG	AAGGCAAGGA	AGCATTGAAA	GCTGTGGGGA	GAGGAGTAGC
	TACTCCAGG	TGCTGGCCTA	GCTAAGGTGA	CCCTCCCCCT	CTGCTGGAAG	TACCATTGCCA	TATGGCCTCT
	GCATCAAGGG	CTCTATATGG	ATATTCTCAG	CAAAATCTCT	CCGTTTCATC	TGTTCTGATA	TCTACCCAA
	CATTTTGA	AACAATCCAA	TTCACTGAAG	AGAATCCAAC	TTCCGTAAAT	TTCCAGTAGGT	GGGTGACAG
20	TTTTATAATT	TCAAATAGGG	ATTTTGATAG	CACTTCTAAG	AATTAACATA	CTTAAACTAA	TGCATCAGGA
	GCATACTTGT	AGAAAGTTA	ACCAAAACTT	CGTAAGTTCA	GATGACATTG	GTTTTCTCCC	ATATGGAGAT
	AAGGTTGGCA	GTAAAAATG	AAAAAAGAAA	AAAAACCTAC	CTTATTTCAA	ACTTGAAAAAG	ATCAAGAGAT
	TGTTTTTTG	TTTTAGTT	GTATTTCTC	TAAAGGTTTA	TGCTAGAGGA	AAAGTAAAAAG	TATGTTAAGT
	AATAAGCCAA	ATAAACCAAC	CAAGAAAGAC	CTCCACTACC	CTGGGAAGGA	AACTGGTTGG	TATTAAGTAG
25	GACACCACAT	AAAACAGGTG	TTATTGAGAG	GAGAAGAACC	AAAATGTAAC	TGAGGTTCAA	CAAGACATTA
	TTTATGCAAT	GGCAATGAGA	AAAAATAAAA	ACACAGTATA	ACCATGCTGT	ATTGCTATAA	GTCATGTTAC
	ACACTGGGAG	ATGGCTTCAG	GGGTATTTGG	TTTTACTTTT	TTGTTTGGGA	GGTTTTTCAA	AAAAAATTAG
	TTAGAATAAG	TCCTTTGAGA	AACATCAGAG	TAGTTTAAAC	AAAGTTAGGT	TAAATTAGGC	TTCTAAGTTT
	GACTTCTCAG	CAAACTTCTA	CTGAATGTTT	TGACTGTAAG	CCCAGGATTG	CATGACAAAA	CCTCTAGTCT
30	GAAGTTACTG	ACCTTGACAG	GTTGGTCTG	GAGATGACCA	GTTTCCAAAT	GGTCCACAGG	TGGTTTCTTC
	AATCCCAGTT	AAGTTTGTTT	CTTCAGAGCA	GCTGAAGGCA	CACGTGTAGC	TGAAGTCAA	GTTTCCAAAA
	GGGTGAGTAC	AGTCTATGGT	ACCCAGCTCT	GGGGCTCCCA	AAGGCTCACA	CTGAATCACT	TCAATAGGGA
	AAGAAACAGT	ATGGGAAGA	GTTAAGAGGA	ACTGACGCCT	GGATTGTAAT	CTAGCCCTG	CCACTTGATA
	ACCATGTGCC	TTTAAACAAG	GTTACTTGAA	CCCTCCAAC	TCAGTTTCTT	CATCTATATA	AGAGGAATAA
35	TGAAATTGTG	TTATCTTTAT	CAAATTGATA	TGGAAACTAA	ATGTAATTCA	ATTAGCATAA	GTCAAGGACC
	TTAGAACAAA	GCTTACTCA	TCAGAAATTC	TAAGTAAACA	TTAGCTAGTC	TTCATATTAT	TATCTTCAGC
	ATTATCTGTA	GTGAGAATCC	TTAAAGCCAA	ATAGGTGTA	CTGGGAATGA	CCAGCTTAGT	CGGGAATAAA
	CTATCACATC	AGAGCCCTG	AGTCTACTAG	AGTATTGGGA	GCAAGATGTT	CAGAGAAAGA	GTGGGTCTCC
	ATAATAAGCC	TTCTTTGCAA	GGAGAGAATA	TAAAAGTCTA	GGGAAGCATT	TGACCTCAAT	TCTGTCTTCT
40	ATTCTAGCTC	AGTTCAGGAC	TTTTAACTCT	TTTGATTTTG	ACAACCCCTC	CCAGAAACATG	TATCTATTTT
	CCTGTTCTGA	TTGGTGGTAA	AATAGGTAAA	TTTAAAGACT	GGAAATCAAA	GTTTTACATG	TTTAGACCTT
	GCCATGCCAT	TTAC TAAACA	GTACAACTTT	CATGTCTTAT	TCCTCATCTG	TCAAATTTAA	GCCATTATTG
	CTACCTTGCT	CTAGAGACTT	CAAGGAAGAA	TGGACTCAAG	GAATCAGAAG	AATTTTGTGA	TTTGGAACCT
	ATATGAGATG	AGATTAGGGA	GAAAACCTGG	AACTAAGAGA	AAATGTATTG	TTTTTTTCAAT	GATTTAAAGA
45	GTATCTATTA	TATATCAAGC	ATTACTCTGG	GGCTTGAAGA	GCTTAGATTG	CACCCTGTAG	GACAAAATGG
	TAGGTAGAAA	TTAATGGGTG	GATTGTGATG	TATGTGTGAT	GTGTTTTAAT	TGCTTTTAAAT	TGATCAGTCT
	CCCTGTAGTA	TGAATAATGT	ATTTGAGGGG	AGCTAATTTA	AAATTGTGGA	ACTCATCTAA	TAAACTATTG
	CAAGAATCTG	GAACAAAGAT	AATGACGGCA	ATGGTAGTAG	AGTTGACAA	TGGAAGACAA	ATTAGAAAAA
	CAGTAAGTTA	TAAATAATTG	TAGAATGTTA	CCCTGCATAA	ATGTTGGGGG	AGTTAAGAGA	GTCTCATACC
50	AGGCTGCCCC	TGTAATAGGT	GATTCCACAT	ACTGAGATAA	GAAATACGAA	GAGAAAAGCT	GACTGGGAAC
	AATTGGTTTT	ATAGTCTTTT	AAACATCCCA	AAGGACATCC	TTAGCATATT	TGAGTTCAGA	GCTGGAGATA
	GGCTTATCAG	TCCAAGATC	ACATAGATTT	GTGAGTCCGC	AAAAGTCAGT	AAGTTTGACC	AAAGGATACA
	TGTAGATTAG	AGTCAGAAGA	GCAATATACA	AAAGACAAAA	GCTGAGAAGT	TATAGTAGTT	TATGGTCTGT</

[illegible]

TATAATGATT CCTGIGACTT TACCTAAGAA GAAGCAAAGA AAGGAAAGAG ACTTACCAAA CTGACACTGG
 GGCCCATAGT ACCCCACATC ACAGTTGCAG GTGTAATTAT TGATGATTTT TACACATTCT CCATGGCCAC
 TGCATGACCA GGGCTGGCAA GAAGCTTTAA GGAGGTCAGA AAAAAAATAT TTTAATGTGA TTACATTTTA
 GTACTCAAAG TCAITTTCTT AGACATAGAT AACCTTTTGT CTGAGATGAT TTAATAATC AGGAAAGGTT
 5 TATTTGTAAA TTCAIAGCAT AAAAATCATA TGCTAAAATT TTTACGTATA AAATACACTA AGCATATAGT
 CATAGGCATT TATITGCTTT TGGAATGAAA TTACCAATAC TAATATTCTG TAACACTTAT AGGAAACTTA
 GTGGCATAAC TTGA AACTCT TGAAATTACT TGTTTTAAAT GAGTGAGAAG GTTAAATGAT GACCTGACCT
 CAATCATTTT TGCATGCAAT TATTTCTTGG CAATCCCTTT CTTTATAGAA ATCAAAGATT AAAAAGTCCA
 AATTTGCTAA AACC GTAGAG TCCAATTTAT AAGAGACCAA ATTAACATAT GTTCATTATT AAAACATCAC
 10 TTGGAATAAT CTGCCTGTTT TGGAATTGTA GAAGATTTTA CAGAAATATT CATACACCAA AGATAGTGCA
 ATTTTATAT AAAAITATAT AAGGTTAGAC CAAGAAGGAA GCACGCAGCA CCACACTCTC TACTTCACAA
 TGTGAAAACT GAGGTGATGT GAGCCTAAGT TTCCAATGG CCCCAGCTGT CAGCTTCTCC TCCCCTGCCCT
 TATTATCAAA GGCCTGATT GTCTAGCTCT TCCTCTGTAC TTCCTACGTA GATCTATCAT TTTGATGTAA
 CTTGATTTAG GGGTATAGCT TTTGTGCACA GGGACAAATC TTACACACCA AAAATTCTTA GGAGTGACAC
 15 GATGCAAGAT TATATAGAGG GCTAGATGTA TTTTAGAATG AACCAGAAGC TGTTCTCATC CCCCCACCTT
 TCCATGGGGT AAATCTGAGT ATTCTCTTAA CCGTGGCCCT TCCTGAGTCT GAGGCAGCAT AGCCGTCTTG
 TCACTCCCTA CTTGTTAAC AGAGGGCTGC CTTAGTTTG TGGCAGGCGT CATCGTTCCA TTTGCCGTGCA
 TCTTTGTTTC TCTTGATATA GATCTCCACG CAGTCCTCCT TGTTCTTCTT GTTGTGGGC TCACCATCTC
 CCCAGTTCTC TGCTTCTTCA GTAAGAGATT TGTTGGTTCC CACCCACGTC CATATTCTCT CTATCTCCG
 20 GATTCCATAT CAGTAGTAAG AACGACTGAA AGGCAGAGTC TTCTCCAGAT ACTCAATTC CGCCTTGTTT
 TGTATGGCAA CTAATCTGT GTAATTGTCT CGGCAGAATC TTCTAGCCCT TTGCCAGTTC ATGGGTTTTT
 CAGAATAATG GTAA GTCCAG CAGTCGGTTC CATGATGTGC CAGGAAATCT GCAAGACTC AGTGCTGACCT
 ATGCAGACTT ACAIATGTIT ACAGCTAAAA AGAACCTAGC ACTACTCCAG GCTGAGCTAG ACACCTAGAG
 25 ATGAGGAAAC AGAGCCTAAG AGTGTATGTG ACCATCTCAG GATCACAGAA TAGTTGTTTG CAGATTGAA
 GTAGAACCTA GACTTCTGG CTTGAATATA AGATGCTTTT ATCTAAGGTT CTATTTGAAA CAAATTTAGT
 GGTTTTCTAG GTTATTTTC TTATTAATTT TTTTCTCAA ATTATTTTCA GTGAAATTTA ACCAACATAT
 TTTAGACATT CATATTTCTT TTTCTTTGTA GCTGTTAATG ATTTACAAC AATTACCGTG AATATCATATA
 TAACTATACA ATTACGTAT ACTTTTAAAT CCTGGAATCA TTTCTTGAAG GCCAACACAT ATGTACCTAT
 30 GGGAGAAGCA TAA AAGGAC AGGAAGAACA GTGACATACT TTTAAGTAAC CTCTTTTACA TAAAAACAT
 TTTATTTTAC CATA GAAGA ACTGCTTCTG GAAAAGCCCA ATATACCACT CAACTCTTAT ATATCTAACT
 GTATAATTTT TAAAAAGAAC AATTTACAAA GCCAAATGGT ATAGGATTAT GAAATTCATT AGATCATGTT
 CTATACACAA AGAGACTCAA CTGATGATGT TTAATAAACA TATGGACCCA TCAAATATGA TCAATATGAA
 GATATCTAAT TAA CACATA ATTACACAAT GACTTCATAA TAATATATGG CATTCTAAGC ATGGTATGAT
 35 CTACATGAAT CACTATTTAA TACAGTAAAG AAACAGATAT AATTGATGGT AAAGAGCATC ATAAAAATAA
 CATTTTGAAC AGACTTTTGA ATGAGCATTC CACTAGAATG CAAGTTCTAA GAGGGAAAAA ACTGTTGTGT
 CCACGTGCTG ATCCTTAGTG CCTAGCATAA ATTTACACACA TTGTAGGGAC TCAGAAAAATA CCTGTTGTAT
 GAAAAGAGCA CTAATTTTCT ATGTGACACA GTGCAGACAT GGCATAAGGA ATGTGTGAAC GGGAGAGTTA
 GCATGTTTGC TTGGCTAGAG CTGAAAATCC AGGCTAGGGA GAAAGAAGAC ATTAGTTTAC TTAGGAAATG
 40 AAAAAACCAAG TTCA AAGCTA TTGCTGGAGA GTCTTCAAGA ATCAGATATA AAATTTGTCA CAACAATGGG
 AGAAGGACCA AAAATGATA AACCCCGTC CTTAATAAGC CTGATTGTG TAAATATTG AATTGTAGAA
 TGTACAGATT ACTTGAATA AAAAATAGAA AATGAGGTGC TAAATATTG GTACAGATTG GTACAGCTT
 AACAGAGATT TCTTAATTAA CATTATTCTT TTATAATTGA GGGATTITGT GGGGTATTG GGGATTGAAC
 TCTACAGCAT GGGCTATTAT AGGTAAAAA TAGTGTTTCTG GAGTTTCTGG GGAAGAACTA AAGGTAAGAA
 45 GAAAAGAGAT GTT ACAGAA GGGATAGAAT TAACAGCTCT GTGAAATAAT TTTCCCTTAG ACTATGTATA
 ACTAGTGGAT ATTTAAGAAA AATGAATATA AGTAAAATAG ACTTAGCGAT ATATAAATAT CATAACATAC
 CACAAGAGAG CAT GTCCAC CCCCACAAC TGAAGATTGT CCATAAGTCC CTCTGGGTGC TCTGACATT
 CCATGGAAAT ATCTGCAAAAT GAAATACAAA ATTATATTTA GATGTATACT CTTAAACCAC ACATTTATAG
 CCTTTGAGGT GGTCTTACA ACTTTCTTAA TAATCAGAAAT AAAACACATA TGTCTACTAA CCCTGTCTGA
 50 GGTAACAGGT TTTCTAGACA TAGATGAAAA ATTACTTCAA ATTTACATCA AATTACATCA GAACGTATGC
 TTTGTTCTAT TTTATTTTTC CGCTTTAGTC TCAAGTTGCT AATCGGTACT GGCCTGAATT TTTTCTATGG
 TTTGGTAATT TTTATACCTG CTTTCTGCT GAGCTATTAG ATAAAACTAT TTAATATTTA CTATGTATAT
 TTTTAAAGT ATTCTGCTG CTTAATTAAC TATTGATGCT TATATTTAAT GTTATAGCCT CACTCTTGAT
 CATAATGGGT CAATGCCTCA AATACCTAAA ATTAGATAGC CAGACACCAG GAAAGAAAAG
 55 TATTTCTTTT TTTAATAAAA AGAAATACCT TTTTGAGCAA CTGAAATGAC AAAGTCACAA ATTTCTGCA
 CACCTTAAAA TATCTTAAT GTAAATGACG AGTTAATGGG TGCAGCACAC CAACATGGCA CATGTATACA
 TGTGTGACAA ACCGTATGT TGTGCACATG TACCCTAGAA CTTAAAGTAT AATTTTAAAA AAATTCTATC
 TTCCAAAGCA TATCACTTCT CAGGTAGACA CAGTGTTTAT TGCAAAAGAT CTGATTTCAA TAGTATTTCT
 TCAAGAGTCT CCCCAGAGAC AAAGTCAAGA AGAGGAAATC AGCATATCTG AGAAGAAAGA TTTCAGGATC
 60 ACTTTTTTTG AGGGTCTGAG AAAATGTTTA GTTTCTATAT TATTTAAAAA CAGAATTGAA ATGGGGTGAT
 TCCTATCCTT GCCACCTGCC TCTACAACCC CAAGAGTTTC TATCTGAGCA TCTAAACGTC TTTTAGGCTG
 AAAGGCTCAC CATGGCTTTG CTTGGTCTT CTTAGTTCT TCTGCAGCCC ATTGAGCCTC TTTGACTAGC
 ACAAGGGTCT CAGGTCTTGG CCCAAAGGGA GTGTGCTGTG CTGCAGGTAG ACTGCACTGA ATGTCAACAG
 AAAGCCTTGC TTTCTTTCAT TTCTCTAACC CAGTCTCACA TCCTCCTCCT CCTCCCCTT TCCCTCCCCT
 65 TCCTCCTGCA CTCTCTTTT CTCTCTTTCC TAGACTGGCC TCTATTGCCT TCTATTGCCT CCCACTGAGA
 CAAAATGAA CTGCTGATCA GAAAGTAATG TGACTTAGT CTCTCTTCTT TCCCTCCTTT TCCCTCTCC
 TTCCATTCTC CTAATGCACT TCCCTTACCC TCCCTCTCCT TCACTCATTG TTTGTTGCTG TTTGTTGCTG
 CTTCTTTTTC CTCTTGCTCC TCTTCTTCTA CTTGTTCTTG TTCTTGTTTT TGTTTGGTTC TTTGTTCTCT
 CTTCTCTCTT CTCTCTCTCC TCCTCCTCCT TCTTTTCCAC CACCCTCCCC TATCTTTTTT ATAAATGCTA

004040" 6494560

5	AACTAACTCT CAGACATATT CACCTCCGTC GAAGAGAGCC GGACTATAAA AAGGAAGACC TAACAACAAC CTGCTATAGA AGCGAAAGAC AAATCAATAA AGAAAAGAAG AACTACCATC TTCTGGACA GTTCTGAAAT CAAAATTCTAC GAGGAACTCC CAAAAAAAGA AACTGAATCC GCTGGTTCAA GATTATCTCA AAACTAGGTA TACTGAATGG CTCTGTTC	TGGCTACCTG TATC ATGTTT TTTCTTGCT CATGCTCTCT ATGAATGGT CACATGATGT AAAAACTCTG TATGATTATT AAGAATAAAC ATCC AGGAGC ATCAATAGAC AGAC ATTACT CATACACCCT TAAGGCGACA CAGAGGTACA TCCCTCACTC AAATTTCAAG AGCATGCAT CATACACAAA ATAGATGCAG TTGATGGAAC GCAAAACTG ACATAGTATT GAGGAAGTCA AAAT TCTCCT AGAAATCTCT ACAAAGAGAA AACC ACTGCT AATCAATATC CTACTGACTT ATAGCCAAGA ACAAGGCTAT AGAGGCATCA TTGGGAAAGG TGGATCCCTT AACCATAAAA ACTATAAAAC TCTGCACAGT GCAATCTATT AACATAACAA GTCAACAAAC GATC CCATCT TGGATGAAATA GTGGCGATT CCAAGGATT CAGCAAAAGAG CATCATGGAA GAAACCGTGA GGAGTTGAAC GGGC CTAGGG ACCATGGCAC ATTTAAAAAA GAACAGAGGC GACA TGGTAA TGAAGAAGT CTCTAAGAGA TCAAGGAATC CCCAACCTCT TAAITCTGTC GTCTTACACT TTCTTCTTAC CCCTTGGAGT CACCCTCTTG CTGTAGCCAA TTACATATCC TCAGTGGATT TTTTTTTCA AAATCAGAGA GAGCGATGGG	TGGTAAATGG GCAAAACTTC CACCACCTAG AGCTTTTAC TTTATAAGAC AGTCAATGAG AAGCTCAGCG ATCCCCATTC TAAGATCAGA TGACTTTTGA ACAATAAAAA ATAAACATCT CCCAAGACTA ATTAATAGCC AAGAGGTGCT ATTTTATGAG CAAAATATCCC CAAAAAGCTT TCAATAAAAA AAAAGGCCTT GTATCTCAAA AAAGCGTTCC GGAAGTTCTG AATTGTGTCT TAAACTGATC TACAGCAATA TAAATAACCT CAAGGAAATA ATGAAAATGA TTTTACAGAA CAATCTTAAG AGTAAACCAA AGTAAACAC ATTCCCCATT CCTTACACCT ATTCTAGGAG CAAAAGCAAC AGAAAAAAA CACCTGACAA ACCATCAAAA ATATGAAAAA CATGCCAGTT AGAATGCTTT CTCAAGGATC ATAAATCATT TTGGAACCAA TACTATACAG TTCTCAGCAA AATGAGAACAA GAGGAACAGC ATGTATACCT AGTTTAAAAA CAATCAGTTC AATGGGGAAA ATCTAGACTT TGCGAATGCT CTAGGGTCTA GACTAATTTT TTGAAGCTTG TCACTAACAC TTCAGTGGCT ACTCCAGAGA ACTTTGAATA ATGCCTATCT CAAACCTGAAC ATAACTCCAT CAAGTCATAT GAGCGATGGG	CCCTTGGAAG AGTAGAGCTA TGGACGTCTC CGTGTAGGTT TGCATGTGAA TCAATGCAA CCCCATATT TAAAGAGTCT GCAGAACCAT AAAGATTAAAC ATGGTAAAGG TTACACAAAT AACCAGGAAG TACCAACTAA GGTACCATT GCCAGCATCA TGATGAACAT ATCAACCACA GAATCCATTA GGATAAAATT ATAATAAGAG CTTTAAAAAC GCCAGGGCAA GTTTGCAGAT AGCAACTTCA ATAGACAAAC AGGAATCCAA AGAGATGGACA CCATACTGCC ATTAGAAAAA CAAAAAGAAG ACAGCATGGT CACACATCTA TAATAAATGA TATATAAAAA AAAACCTAGG AAACCAAAAA AACTATCAT AGGGCTAATA AGTGATGAA AAGTCTATCA AGAATGGCGA TTACAGTGTT TATAACTAGA TACGATAAAA CCCAATGCC CCATAAAAAA ACTAACACTG CATGGACACA ATTAGGAGAA ATGTAAACAA AAGAAAGTTG CAAATCCATG AACGTGGAGC ACTTTTTTCT GCTCTGTCTC GTGCCCTTCT TTTATTTTTT TCCAATCAGG AAACAGCCTA ATTCTTCTG TCACCGCTTT CCATTTAAAT AACAATCCCA TTCTGAATTT CCTTCCAGTT CCAATGTGTC GTTCAGGAGG ATATTTTATTA	TTGCAAATAC AGCAGTGGAC TGTTAGTGGC TGGGAGCCTA ATTAGGACCC ATCAGATTG ATTATATTGT CAAAAGAGGT AGGAGGTAGA AAAAATAGATG GGATATTACC AACTAGAAA AAGTCAAATC AAAAAGCCCA CTTCTGAAAC TCCTGATACT CATTCGCGAA ATCAAGTTGG CGTAAACAGA CAACACCCCT CTATTTATGA TGGCACAAGA TCAGGCAAGA GACATGATTG GCAAAGTCTC AGAGAGCCAA CTTACAAGGA CAAAATGAATG CAAGGTAATT AACTACTTTA AAAGCTGGAG CTGTGTACAA CAACCATCTG TGTTGGGAAA TTAACTCAAG CAATACCATT GCCAAAATTG CAAAGTGAAC TCCAAAATCT GGATATGAAC TCACTGGTCA TTATTAATAA GGTGGAAGTG AAAACCATTT GACACATGCA CACCATGAT GGATGAGTTC GAACAGAAAA GGGAGGGGAA ATACCTAATG CCTGCACGTT CCTTAGTCAC CTCTTGATCA CAGGGAGACT AAGTCTCTCT TCAGGCTAGA TCCCTCAGCC ATTTTTGTAG CTTTCAGCCA TTCTCCATCC TATCATGTGT GCTCTTCTGT GCGAACGAAT TCCCAAAACA CTCTCCAAT ACTCAGACCA AACAAATTTT ATATTTTATTA	TACAAATCAA TTGACTCGTT ACTTCTGAA CAAGTACCTT ATATGATGAA CATTTTTAGG TTAATCTTTA AAGAAACAAA GACACGAAAA GACCACATAGC ACTGATCCCG ATCTAGAAGA CTGTAATAGA GGCAGAGATG TATTCCAGAG AAAACCTGGC ATACTCAATA CTTCATCCCT CCCATACACA TCATGCTAAA CAAAACCACA CAAGTATGCC GAAAGAAATA TATATTTAGA AGGTTACAAA ATCATGAGTG ATGTGAAGGA GAAAAACATT TATAGATTCA AATTTTCATAT GCATCATGCT AAACAGATAT ATCTTTGACA ACTGGCTAGC ATGGATTAAA CAGGACGTAG ACAAATGGGA AGGAAACCTA ACAAGAAACT AGATGCTTCT TTAGAGAAAT GTCAGGAAAC TAAATTAGTT GACCCAGCAA CACTTATGTT AAACTGGATA ATGTCCTTTG CCAAACATTA CATCACACAC TAGATGCAG CTGCTCATGT ATAACTAGTA TTAAGCTAAG TGTGAAAGTG CTCTAATTTCT GTGCAGTGGT TCCCATGTAG AGACAGGATC CACCAAATCC TCATCTTACT TGATTCTCCC GTCTAACCTC TCTAAATTTCT AATTTAGTTG CTGTAGGGCT AAACTTTTTG GGTAGTGGAA TTTAGGTGCA	AACTGCATT TCGGTTCCTT GTAAACCCCT TAATATTCTT GGACAATAAA AAAATAATAA TAACAGCTCT TTCAAAAACT AGCCTTCAAA TAGACTAATA TAGAAAATA AATGGATAA CTAATAACAA GATTACAGC AATAGAAAAA AGAGACACAA AAATACGGGA GGAATTGCAAG AAAAACCAGT AACTCTCAAT GCCAATAGCA TCTCTACCA AAGTGTATT AATGTCATT ATCAATGTGA AACTCCCATT CCTATTCAAG CCATGCTCAT GTGCTATCCC GGAACCAAAA ACCTGACTTC ATGGACCAAC AAGCTGACAA CATATGCAGA GACTTAAATG GTATGGGCAA TCTAATTA CAGAATGGGA TAAACAAATT CAAAAGAAGA GCAAAATCAA AACAGATGCT CAATCATTGT TCCCATTACT TATTGAGGCA AAGATGATGT CAGGGACATG CCCATTCTCA TGGGGCATGT GTTGATGAAT ATCCAGAAA AGAGACATGG CTTATGGCAG CCAGTGCTCC CTCAATCTCT GCGATCATAG CTAAGACTAC TCACTATGTT CTGAGACTGC TCACCAGGGA TCATCTCCCC ACTAACTTGG GTACAACGAG TTCAATAAGC CTTCCCACAG AGTTAACTGG ATATTGCGGG CTGGCGAAGT
---	--	--	--	--	---	--	---

Variable	Mean	SD
Age	35.2	12.5
Gender	Male	65.2
Marital status	Married	72.1
Education	High school	15.3
Occupation	Unemployed	45.2
Income	Low	35.2
Health status	Good	65.2
Family size	3.2	1.5
Religion	Islam	85.2
Urban/rural	Urban	55.2
Migration	Yes	15.2
Duration of stay	5.2	2.5
Language	Arabic	95.2
Employment	Unemployed	45.2
Health insurance	No	35.2
Smoking	No	85.2
Alcohol	No	95.2
Drugs	No	95.2
Stress	High	45.2
Depression	No	85.2
Anxiety	No	85.2
Sleep	Good	65.2
Appetite	Good	65.2
Weight	65.2	15.2
Height	1.75	0.05
BMI	21.5	3.5
Waist circumference	85.2	10.2
Blood pressure	120/80	10/10
Blood sugar	100	10
Cholesterol	200	30
Triglycerides	150	30
Hemoglobin	15	1
Hematocrit	45	2
White blood cells	10000	2000
Platelets	250000	50000
Protein	7	1
Albumin	4	0.5
Bilirubin	1.2	0.2
ALT	40	10
AST	40	10
ALP	120	20
GPT	40	10
Gamma-GT	40	10
Urea	10	2
Creatinine	1.2	0.2
Calcium	10	0.5
Phosphorus	3.5	0.5
Magnesium	2.0	0.2
Potassium	4.0	0.5
Sodium	140	5
Chloride	100	5
Cobalt	0.5	0.1
Copper	1.0	0.1
Zinc	100	10
Iron	100	10
Vitamin D	20	5
Vitamin B12	400	100
Folate	10	2
Vitamin C	100	20
Vitamin E	10	2
Vitamin K	10	2
Vitamin A	100	20
Vitamin B6	10	2
Vitamin B9	10	2
Vitamin B1	10	2
Vitamin B2	10	2
Vitamin B3	10	2
Vitamin B4	10	2
Vitamin B5	10	2
Vitamin B6	10	2
Vitamin B7	10	2
Vitamin B8	10	2
Vitamin B9	10	2
Vitamin B10	10	2
Vitamin B11	10	2
Vitamin B12	10	2
Vitamin B13	10	2
Vitamin B14	10	2
Vitamin B15	10	2
Vitamin B16	10	2
Vitamin B17	10	2
Vitamin B18	10	2
Vitamin B19	10	2
Vitamin B20	10	2
Vitamin B21	10	2
Vitamin B22	10	2
Vitamin B23	10	2
Vitamin B24	10	2
Vitamin B25	10	2
Vitamin B26	10	2
Vitamin B27	10	2
Vitamin B28	10	2
Vitamin B29	10	2
Vitamin B30	10	2
Vitamin B31	10	2
Vitamin B32	10	2
Vitamin B33	10	2
Vitamin B34	10	2
Vitamin B35	10	2
Vitamin B36	10	2
Vitamin B37	10	2
Vitamin B38	10	2
Vitamin B39	10	2
Vitamin B40	10	2
Vitamin B41	10	2
Vitamin B42	10	2
Vitamin B43	10	2
Vitamin B44	10	2
Vitamin B45	10	2
Vitamin B46	10	2
Vitamin B47	10	2
Vitamin B48	10	2
Vitamin B49	10	2
Vitamin B50	10	2
Vitamin B51	10	2
Vitamin B52	10	2
Vitamin B53	10	2
Vitamin B54	10	2
Vitamin B55	10	2
Vitamin B56	10	2
Vitamin B57	10	2
Vitamin B58	10	2
Vitamin B59	10	2
Vitamin B60	10	2
Vitamin B61	10	2
Vitamin B62	10	2
Vitamin B63	10	

[illegible]

	AAATTTTTTC	CCITTTATTT	CTATTGACCT	TTAGCCCTCA	CAATGATTCC	TACAAGCCCC	ATTTCTGTAA
	ATGGGGATTG	AAA'AAATTGC	TGGACTTTTG	AGAGATAGAT	ATATTAAATT	GCAAACCTGGC	AGTAGTGGGG
	GCAGTTGATA	CATAACTAGG	TTTTAAAGTC	TAGCCTTCTG	AGACCACTCA	TCCATTTTGT	GAAAAGTGAT
5	TCTACTTCTT	ATTTATGAGCC	AAAATATGCA	TTCAATTCACC	CATGCATTGA	TTTATTCAIT	CAATAAATAT
	TGTTGGATG	TCCA'CTCTGT	ATCAGGAATG	TGCTAGGTTT	TGGGAATACA	GCAATGAACA	AGGTAATTTT
	TCCCTACCCC	TAAC'GAACTT	AGAGTTTAGT	GGGGAAGACA	GACATTA AAC	AAAACAATGT	GCAAGTAATA
	ATCTATAATT	ATTTATTACA	ATTAAGGAA	GGAAGAGACA	TATGGATTAT	GAGGGCATT	AAGAGGAGAC
	CTAGTGTAA	TAGCCAGTTC	TCGTGAAGGG	ACATGTATTA	GTTGGAGTTC	TCCAGAGAAA	CAGAACCAAT
10	GGTGTGTGTG	TGTGTGTGTG	CGTGTGTGCG	TGTGTGTGTT	GGGGTGTGGG	GGTGTGGTAT	TTTTTATAGA
	AATTGTCTCA	CACA'ATTATG	GGAAGCTGAGA	AGTCCCATGG	CCTGCTGTCT	ACGAGCTGAG	AACCGAGAAA
	GCCAGTGGA	TACT'TCAAAG	TCCAAAGGCC	CTGGAACCAA	GAGTGGCTAG	GTTGGAAGGC	AGGAGAAGAT
	GGGTGTCCCA	GCT'AAAAAG	ACAGTGAATT	CACTCTTTTT	GCTCTACATA	GGGCCTCAAT	GGGTGGGAIC
	ATGGCCACCC	ACA'TGGTGA	AGGCAATCCT	CTIAGTCTAC	CAATTA AATA	CTAATCTCTT	TGGAATAACT
15	CTCAGACAGA	CAC'GAGAAA	TAATGTTTTA	TCAGGGTGAT	AGAAATCTTC	TGGAGTTAA	CAATGGTGAT
	AGCTGTACAA	TCACATACAT	TTTTAAAGGG	TGCGT'TTTAT	GGAAGGTGAG	TTTTATCTAA	ATAAAATTTT
	TAAGAAAGAG	ACT'AAACACA	GAGATAAACA	TAAGCACAAT	TATTGTCAAC	CTTTATAGTG	TTATGTCAAA
	TAGGTCTGAC	ATAAGCTTAA	ATAAATATAT	ACTTTAAAAA	TTATAA AATA	TTTTAAGTTA	TAATTTAAAA
	TTCTCATATA	AACT'CAAACA	CAAAACACAC	TGGTATTTCA	CACAGCTAAT	TTCTAATGCA	GTTTACATAA
20	ATATTCAATA	CAC'TAAAAACA	ATTTCAAAGA	AAATAACACT	GTATTCCATA	CATAGCCTGA	TCACAGTAGT
	TGTTCTCTCT	TATT'CCCGAG	AGTTTTTCTG	CCCTTTAAAT	AGAACCTCTG	CTGTTCTGAT	CCTTATCACA
	TCTCTGTTTT	GAC'GTGTGGC	TTTGT'TGTG	CCAGTGTTCA	GCCAGAACTT	CTCTGAAACT	TTTTTTTCAA
	CACATGCTAA	GTTA'ATGGAA	GTGTAGGAGA	GTTTTGATTCT	TCACACTCCT	CAAGGCTAGA	GCAGCTTTGG
	CAATTACTGA	CTGA'GAATTT	TTCAATTGCCA	GTGATCAACT	GAAAACCTGA	GATTCTTTTG	GAATTGTTAA
25	ATCTGCTTAT	AAAT'AAACAT	AAATGCTTGC	TCACACAGGC	ATTCCTCTCT	TCCAGAGCAC	CCTAACATAC
	AGAAGAAAAC	AAATAGGGAA	TAACATATTAG	ACATCTTCAT	TCGTTAAAAA	TCTACCAGAT	GACTCTTTTA
	CATGGTGAGT	TTCT'ATTGTG	AATTTAAAAAT	CTTCCATAAT	ATACAAGAAT	TATGTTTACA	TATCATATCT
	GACAAACATC	TTTG'TAGGAA	TGCAAAGCAC	ATCCATCTTT	CTGTATTCTT	TTCCAACAAA	GACATTCATA
	AAATTAATCC	TTTG'GTGTGT	TGCATTTATG	CTTTTATTAG	TTCAAAACGT	TTGGCCTCAT	GGAAGTTTTT
30	CATCTGGAA	ACCACATATT	TCTGAAAAAA	TATCTGACAA	TATACAAACC	TTCCACTCAG	TTTTTACTCT
	CCAATTCTAC	CATCTTTTCA	AAAACAACCT	GTAGTAAAAA	CACCTCAGAAC	TTTATTCTGG	TTAACATCAT
	GCCTTGCTAG	GGGA'CAATAG	TTTCCCTTTT	TGAAATAAAT	TTAAACAGAA	TGTAACATAA	TTTGTTAATA
	AACAATGAGG	GGG'IAATCTA	GAATAAGTAA	CTTTTACCAT	ATCATAGTTG	ACAGCATTTA	CAAGTTTTTT
	AAGTCCCTAC	CACA'CTTGTA	TTGAATGAAG	AAGTATGGAA	GATTATAATA	TATTCATATG	AAGTAAAAAT
35	ATCACAATCC	TTAA'GAATCT	TTTGAAGAAG	ACTGAATCCC	ATAGGGATGA	AAGTGATTAA	ATTGTGCATA
	GTAACCCTCG	CACA'GAGCAT	TCAGTAGGAT	TTGCACCATT	AACAACCTCT	CATGCATTTT	CTGTGGGCA
	TTCAACATCT	GTCATTTTTT	TAAGTTATAA	TATTTT'TAGT	CATTTTTTTC	CTCTAAACTC	TGGATAATTA
	TTATTCAATC	TTAT'GACAGC	AACTGTGTAA	TCAGCTGTCT	AAACACTGTG	AAGGGCAAAA	GAAAGAAAGC
	CACAAAATAT	TGTC'TTTCTG	TGCCAAGATT	TTACAGCGAG	CAAGGGAGAG	TTAGAAAAGG	AATTTCTGAA
40	TTTCAGAGTC	TTGT'CTCTCT	CACCTTGTCT	TGGAAGAAAA	TATCCTTTCC	CTTCATTAGC	CACACTTTTC
	TTGATCCTGA	GAGT'AGGAAA	GGGAACACTG	AGTCTTTTCA	GTTGAAGGCC	GTCTTGCCT	GCTGGACTTT
	GATCTATTGA	AGTC'GTGATG	GGTGT'TGCGG	TTTCAGCCAT	AAAGGCATCT	GGCATAGTAG	GCAAGAAGGG
	CCAGAGACCC	GAG'JAGAGTT	ATCTGTCTCT	GTTAACTTCA	GTGTATCCCT	CTAGTTCCCC	AGATGCACCT
	GTTTCTGTAA	ATATAAACAT	GCATGTTCAT	AGAACACTTA	ATATTCTGCA	TACTGATCAT	GACAACAAAA
45	TGTACCTTCT	AAACAGACACA	CTCTCACTAG	GATAGACCAT	TAGGAAACAT	CGAATTCTAT	TCAGTTAGGA
	CAGTGATGAT	GTCI'ACATAT	TATACCTCTG	TCAAAACCTA	CAGAATATAC	AACACAGCAC	AGAGTGAATT
	CTAATGTAGC	CTGI'GGACAT	TAATGAATAA	TAATGTATCA	ATATTGGCCC	ATCAGTTGTA	ACACTAATAT
	AAGATGTAA	TAAC'AGGGGG	AATTTGAAGG	GTGGTGGGGA	GATATGTTTG	AACTCTTTGT	GCTTTCGTCT
	CAATTTTTCT	GTAACCTTAA	AACCGACAC	ACAAAAAAG	TTATTTTAAAT	TTTTTAAAAA	GTATTTCAGAG
50	GGACTTGACC	TTTCCAAATT	CTCTCAAAGC	AGGTCGGAGT	AGTTAAGAAC	ACAAATTTTA	GAAACGAGCT
	GCCAGAGTTT	GAA'CTCTGGC	TACACCACCT	ACTAGCTTTG	AGATTTCAGA	CAATTTACTT	AACTTCTCTG
	TCTCATTTTC	TTCA'TCTGTG	TGATAAGAAA	TAAAGTAACA	GGCCAGGCCC	AGTGGCTCAC	GCCTGTAATC
	CCAGACATTT	GAGAGGCCAA	GGCGGGTGGA	TCAGGAGTTC	AAGATCAGCC	TGGCCAACAT	GACGAAAAAA
	TACAAAAATCT</						

1977-1978		1978-1979		1979-1980		1980-1981		1981-1982		1982-1983		1983-1984		1984-1985		1985-1986		1986-1987		1987-1988		1988-1989		1989-1990		1990-1991		1991-1992		1992-1993		1993-1994		1994-1995		1995-1996		1996-1997		1997-1998		1998-1999		1999-2000		2000-2001		2001-2002		2002-2003		2003-2004		2004-2005		2005-2006		2006-2007		2007-2008		2008-2009		2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017		2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		2022-2023		2023-2024		2024-2025		2025-2026		2026-2027		2027-2028		2028-2029		2029-2030		2030-2031		2031-2032		2032-2033		2033-2034		2034-2035		2035-2036		2036-2037		2037-2038		2038-2039		2039-2040		2040-2041		2041-2042		2042-2043		2043-2044		2044-2045		2045-2046		2046-2047		2047-2048		2048-2049		2049-2050		2050-2051		2051-2052		2052-2053		2053-2054		2054-2055		2055-2056		2056-2057		2057-2058		2058-2059		2059-2060		2060-2061		2061-2062		2062-2063		2063-2064		2064-2065		2065-2066		2066-2067		2067-2068		2068-2069		2069-2070		2070-2071		2071-2072		2072-2073		2073-2074		2074-2075		2075-2076		2076-2077		2077-2078		2078-2079		2079-2080		2080-2081		2081-2082		2082-2083		2083-2084		2084-2085		2085-2086		2086-2087		2087-2088		2088-2089		2089-2090		2090-2091		2091-2092		2092-2093		2093-2094		2094-2095		2095-2096		2096-2097		2097-2098		2098-2099		2099-2100		2100-2101		2101-2102		2102-2103		2103-2104		2104-2105		2105-2106		2106-2107		2107-2108		2108-2109		2109-2110		2110-2111		2111-2112		2112-2113		2113-2114		2114-2115		2115-2116		2116-2117		2117-2118		2118-2119		2119-2120		2120-2121		2121-2122		2122-2123		2123-2124		2124-2125		2125-2126		2126-2127		2127-2128		2128-2129		2129-2130		2130-2131		2131-2132		2132-2133		2133-2134		2134-2135		2135-2136		2136-2137		2137-2138		2138-2139		2139-2140		2140-2141		2141-2142		2142-2143		2143-2144		2144-2145		2145-2146		2146-2147		2147-2148		2148-2149		2149-2150		2150-2151		2151-2152		2152-2153		2153-2154		2154-2155		2155-2156		2156-2157		2157-2158		2158-2159		2159-2160		2160-2161		2161-2162		2162-2163		2163-2164		2164-2165		2165-2166		2166-2167		2167-2168		2168-2169		2169-2170		2170-2171		2171-2172		2172-2173		2173-2174		2174-2175		2175-2176		2176-2177		2177-2178		2178-2179		2179-2180		2180-2181		2181-2182		2182-2183		2183-2184		2184-2185		2185-2186		2186-2187		2187-2188		2188-2189		2189-2190		2190-2191		2191-2192		2192-2193		2193-2194		2194-2195		2195-2196		2196-2197		2197-2198		2198-2199		2199-2200		2200-2201		2201-2202		2202-2203		2203-2204	
-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--

	TAGTAGCCAC	TATCTGTGTG	GCTACTCAAA	TTTAAACTTG	AATTCGTTGA	AATCAAATAA	CATTTAAAA
	TCAGTTCCTC	AGTC TCACCA	GCCACATTTC	AAGTACTCAA	TAACCACATG	TGGCTCATAG	GTACACACTG
	GAAAAACAG	CTATGGAACA	TTTCCATTAT	CACAAAAAGT	CTACTGCACA	ACGCTGTGCT	AAGGAATCTT
5	GGAGAGAAGC	TCATCTAACT	CTCTTAATGT	ACAAATTTAG	GAACTGAGAC	CTCATTTTAT	TCAAGTGACT
	TGCTCCATGC	TACA CGGCTA	GTCATTACAG	AGCCAGAGGC	CAGAGCATGA	ACCAAGATAC	CCTGGACTCT
	GTAACCTACT	CATTTCTACT	GCAACGCTCT	GTTACCACCT	AGATGAGGTG	AGTACATGTT	CCTCGCAGGG
	ACACAGAATT	ACAGTTTATT	GAATGTGTCC	TGTGTGCCAG	GCACCATGTA	ACCATGAGCC	TATGAAGTTC
	ACACTATTAT	TATCTCTATT	TTACATAATG	AAAACTGACA	TAGAGAGTTA	AACTATCTTG	TCAAGGTGCC
10	AAAAATAATA	ACTGGTGAAT	CTAGGACTCA	AACCCAGCAG	GGTCTGACTT	CATAGTCTCA	GCTCAGCATC
	ACCATATGAC	ACCATCTGCA	CCAGGGAAGG	GAAGGCATGC	AGACTGACT	CTAATGCCAG	CTAGAGACGTG
	AGATGGTGCT	ACCATCTCAA	GTGAAGAAAG	AGGCAAGAAC	CAGACTTACT	TTGCTCACAC	TTGAGTCCAC
	TGAAGCCAGG	GTCACACTTG	CAAGTGTAAT	TATTGATGGT	CTCTACACAT	TCACCGTGCC	CACTGCAGGA
	TGTATTGGTA	CAGCGAGCTA	CGGAAAAATC	AAAGCATGAT	GAGGAGGACT	ATTACTGTGC	TTATACTAGT
	TGCCTTTGAT	TTTAGAATCA	ACAGTGTGCA	ACAGAGACAT	CAGCAGTCC	ACAGAGTGCC	ATAGACTTTA
15	ACTGAAGTGT	TTTACAAAGT	TCCAAATCTG	AGTTTCAGGC	CCACCTATCC	TAAACCTTGA	TGCTAATGTA
	TAGCTGTGGC	TGGCACCTAC	CGTAGAAAA	TTACTTCTTC	ACAAACTCTG	AAGACAGTTC	CCCTACCACA
	AATAAAACAAG	TAAATAAAA	ATGTATTGTG	TGTGTGCATT	TTTATATGTA	AAGAACTACA	TATTTGCCTA
	CAGTATTTAT	ATAATTTTAT	TATATAFACA	TACACACATA	TATGTGTGTA	TATGTGTGTA	TGTATATATA
	TAAAAATGTAT	ATAATAGCTG	TAGGTATAT	ATATATACAC	ACACACATAT	ATGTGTGTGT	GTATATATGT
20	GTGTGTGTGT	ATAATATATC	ATATCCACAT	ATTCTTGCCC	ACATTCACAC	AAAACAGCAA	AAGAGAGAAA
	CTTTAGCAGT	TAAACAGAA	CTTTTGGAAC	ATAAAATGAC	CACAATAGAG	AGCAGTTTTT	GCATGCTGTA
	AATTTGCCAA	GATGCCACA	CACGAAACT	ACCTCCCAC	GCTGCCGCAA	ACTCCCCTCC	TGTTGTAGCAT
	AGGGCAAGCT	TCTTCTGTCT	GCACTCTCA	TCATTCCACA	TGCCACATC	TTTTCTCTCT	TTGATGTAGA
25	TCTCCACGCA	GTCCTCATCT	TTTTGCCTAT	TGTTGGGTTT	ACCTGGAGCC	CAGTTCTTGG	CTTCTCTGT
	CAGAGGTTTC	TGGGTTCTTA	CCCAGACCCA	CACATTGTTG	ACTTTTCTGA	TTCCAATCCA	GTAAATAACT
	GGTGAATAGC	TCAATATGGA	GTTTAGGTAC	TCAATCTCTT	CTTTGTTTTG	AATTGCAACC	AGGTGTGTGT
	ACCTTTGCTG	ACAA TAAGCA	CTGGCCTCAT	CATAAGTCAT	AGCTCCCGTG	GAGGTGTTGT	AAGACCGAGC
	TCCACTCTCT	TAAATGAGAA	GCACACTAGT	GAGAAAAAGA	AAAGAAATGG	TAGAGTTTGG	TACTGTTTGT
	GTTTAACTCT	GACAACTGTG	CTTTTTATTG	TCTTATTTTT	GGCAATGTTT	GTGACATGGC	CCAGACTTTT
30	CTCATCTTTT	CAAAAGTAAG	AAGTACGTAT	GAAGAAACAG	CGACTTATTG	TTTTATCTCT	TTGTGACTGC
	CACCCACTAG	GTACCTTATC	TGACCTCACT	CACAACATTA	TAGTATACCC	ATTTTGTAGT	AGAATAATAA
	TCAGAATAAC	TAAAGCTTTAT	TGAGCACTTA	GTATGCACCA	AGAAGCATCT	TATGAGGTAC	TTTTCCATGAA
	CCATGCTATT	GAACTCTCAC	AATGCATCTG	GGAAATAGGT	CATTATGATC	CACACTTTAC	ACTTAAGGAA
	AGGGAGACAC	CAAGAGGTAA	AGTAAATGAC	CCCAAGCCCA	GGGAAGAAC	CATTGCAGGT	AGAGGTCAAG
35	GATGTGCCCA	GATATCTCTG	GCAGGACAGC	CCAGAGCAAG	CAAGGATATT	TCAGTCTGAA	ATATCTATAG
	TGCGAGAATG	AGAAATCTTG	GTCTAATGGC	ACTGACTTAC	CCAAAGTGAG	AGCTGAGAGA	AACTGTGAAG
	CAATCATGAC	TTCAAGAGTT	CTTTTACCC	AAAGGTTTAG	GCTTGAAATA	CTTCTCTGGG	GAGATAAAAC
	ACAAAATGAA	TTAAGAAGG	AAATCGTGGG	TAGCTAGTTA	CATTATTCTA	CCATGATGTT	TAAGGCAGCA
	TCCTAAGATT	TTGGGCAAA	GACACTAGTG	CAATAATCTT	TATTTTCAGAG	TTTAATCAAA	TAAATAAACA
40	AATTTTAAGA	CTTTCATTAT	TTAGGTCAAA	GAGAAAAAGC	AGGTTTTCAG	TACAATACAA	TAAGAGCTTG
	TACAGATGTG	GTTT TTATTA	GAAGGCCTTT	TGCATATCTG	GTITTCATGG	CCCGAGGCTG	CCCTTATAAA
	GCGTTCTGCA	CTTACCGTTT	TGGGAAGCAG	TTGTTCAAAC	ACAGGATCTC	TCAGGTGGGT	ATCACTGCTG
	CCTCTGTCTC	AGGT CAGTAT	AGGAGTTTTG	ATGTGAAGTC	AGCCAAGAAC	AGCTGAACAC	TACTTCGGCT
	GAGGCCCTTT	TATAGGAGGG	ATTGCTTCTC	GTGAATAATA	GGAGGATATT	GTCCACATCC	AGTAAAGAGG
45	AAATCCCCAA	TGGCATCCAA	AAACTTTCCC	GGGAATATCC	ACGATGCTTA	AAATTACAAT	GATGTCAGAA
	ACTCTGTCTC	TTGAAGCTAC	TTACCTTTG	TCCATGCCTT	TATATCGTAT	ATGCAATTTT	ATTAATATGA
	CAAAAATGCA	TGATTTTAA	TTATAATAAC	ATAAAGTCTA	TGTCTTTAAA	AAGTTGTA	ACTTTGCTTG
	TTAGTAGTGT	CTCTCATGTA	GTGTGGTAG	TAATTAGAAT	TTCAGAAACA	GAAGGAAACC	AAGAAATAGGT
	TGCTCATCCA	TAGTCTACTA	CCTTCAATTT	CTCATCTATA	GCTGTGGATA	ACCAATCACT	ACTCATTTTT
50	TCTTCCTTTT	TCACCTGCCA	ATTCAACATA	TTTAACATGC	ACTGTCTCAC	AGAGGAATGA	CTCACAAGGT
	AGATATTAAT	CTTCAGATTT	TGCACGCGAG	TTATGCCTAA	ATTAATAATAT	TATCTAAAAA	TAATATCTAA
	CACTCAAATG	GTTAAATAA	TGCCTTATTT	TAAAAAAAGA	AAAAATGGGAA	ATAGATATTT	ACATCTGGGA
	AAGTTTCATG	GTTTGTTCAG	TGAAAAAAT	AAAAAGGAGG	CCAGGCACAG	TGGCTCACGC	CTGTAATCCC
	ACCACCTTGG						

CTACAGCCTT TCA²AATAGG AGGTCTATCT AAAAATGTAC TGTCAGCAGA CCTGAACGAG TAGTGGTAAA
 AGCCTCGTTT TTCCTTTTAC TTGTTAGCAC TGGTCTTTCT GTGTTTCATAA AGATGTCAAG ACCCAAAAAA
 AAAACAAGAA AAGAGAAAGAA AAATTCCAAA AAAGACAACT GATTAGAAAA AAATAACTTA ATTAACGAAT
 TTAATTCAAC CCC¹ATCAAA AAGCATAGAA TTTATTCCCT CCACCTTACC ACTCTCTTAC ATGATCCAGA
 5 TACTGACATT ATT¹CAATTC TTTATCCAC TTTACTTAGC TCAATGTGGT TGTTGCTTCA ATAAATTCAG
 AAGAGTAATC ACT¹CATATAG TGT¹TATTTA GATTTTAGGG CAGAATGTCA AGTTGGGTTA ATACATTATC
 TGTATGTATT TTATTTTAA TAAAGTATGA ATACATAATC TGCTATTTTT AAAAAGCATG GTCAAATGTA
 TAGAGTAGCC AAA¹CTTAAA AAACAATTTA TCTTCGATAT CAATAAAGTA CCTAATAATT ATATTGCTAA
 TAGAAATTAG TCG¹TAACAT CCCTAGATAA CTAAC¹TTTAT TATTGCGAAT TTTTCATAAC TAAGTTTATA
 10 GTTTATCTCT TCCCCTTTTT AAAATTAGTT CAAAGATATC TAAAAATAGC CCCAGTGGTG ATGAAGTTTC
 TATTTTACTT ACA¹ATATAT GTCCCTGGACC CCCAATTATA ATCTCTAACA TTTATTGAGT GCTTACTATG
 TGCCAGGCCA TAT¹CTGAGC ATTTTGTATG TTCACCTATT GATTATTC¹CA TCCGTACAAC AGCCTATGAA
 ATAGGTACTC CTA¹TATCCC CATTTTACAG ATGAGGAAAT TGAGAATCTG GGGATTTTAT CTCATTCAAA
 AGCACAGAGC TAA¹GGGTGA AACCAGGCAG TTGATATCCA GAGCCCACTC CCTTACCTGC TACTCCAAAC
 15 CATGATTTCT TTCTTGTTA TGCCCGGAGA TTCCTTGTTT TACCCAAAGT TCCTGTACTC TTCTTGCCCT
 CTTCTTCTGT AGACATCCTT GACCATCACA GCTCTCCACT GAGATAACTG TGTCCTGGGT TCTGAGACAT
 GGGGGCTGGA AGGGACCCCA GGGACAGTGA GCGATAGGGA GAGGATGCAG TGAGAACAGA CCCTGGATCC
 CCGGTGCATA GGC¹GGGAGA AAGTGGACAA AGGAAAAAAC AAGCAAGGCA GGTGGAGCCA TGCCTAGGTA
 AAGTTGATCC CTA¹GCCACA GTTCCCAGAA GTTCTGTATT CAAAAGCAAA TTTTCTCTAA GGTCAAAGGG
 20 CAAACTGATT ATT¹TAAATT CTAAACTGAT TATTTCTAAA TTGAGAAAGC TTCAGGGAGA GATCCCAATA
 TTCGAAGGAT AAG¹GAAATG AGGAGTGGAA GAGATAGGTG AGTAACAGTA ACTTAAATGT AGACTATATA
 TAATATATAA TAT¹TGTAGA GTATATATAT ATAATTACAA TATATTATAT ATGTGGAATA TATATATTAT
 TTATATATAT TTA¹TATATT TATATATATA GATATTTTAT TATTTTATAT ATAAATATAG ATATTCTTAT
 ATTTTATATA TAA¹TATAGA TATTTTATA TATATTATAT ATAAATATAT GTAAAATACT GTGAAAGAAG
 25 AATAGAATCT TGACIACCTCA AATCACTAT GCCAAAGGGA AAGTTAAGCT TGGGAAATGA GTCATGCAAA
 AACTGCCTTC CTT¹TGTTCC CAAATACCTG TAATTTTACA TGCTTACTTT ATCTTATATA AAATGTAGAT
 GTACTGAGCA TGAGATCCAT GCATAATTCT CTTCTGTGCC CTCTTTTAA CATGTAAAGT GTAGACTCAC
 TGAGTGTAC AGA¹GCCTTG CACAATGTAA ACAC¹TGTCT CATTGCCAA CCACTTTTCG TTTATTTCT
 TCCCCTCTG CTTGCTCTTT CCCCTCTAAA GATGGAAAGT CCCAAAAC¹TC TCTTTGAAA AAGCGCAGGT
 30 CACAGATCCT ACAGTGATTT GTGTTTCTTT TACCTGGGAC AAAATAAAC¹CC TCTAATCTGT TGAGATATGC
 TTCAGTTACT TTTTGGTTTA CAATATGTAC ATGTATGTAT ATAATTTATA TGTATATAAT ATATGTACTT
 GTTTTAAACA GAGGTATGTT ATTCAAAATC CTTACTCTCT TACAATTACC TGCAATCTCC CACAGTATT
 TCTGTGCTCC TGCCCCGAG GTTGTCACTG CAAATCAGGT ACATGGATAC TGGGAGCTGA TGGGCTCCCC
 TCTGGCTACC TGGCCTGCTG AAGGGGCCAT AGACAGACCC AGCTTTCCTC TCGTGGAGAG GCCCTGGGCC
 35 AGCGCTGCGT GGGAGTGGGA TTACAACCAG ACTATAGCTT CTTCACCTGC TTTTCTCTAT CAGGATTTC
 TAAGAGGCAA TTGCTTGT¹TT TTTGAGGGTG GGGGCAATC AGGGGGAGTT GAAGAGGAAA TTGGGTAAAG
 TTTGAATAGT TGGCATGTT GAATATTATG AATATCATCT CCCTCTTCAA ATAATCCCAA ATATACCCCC
 AAGAAACAGG CTGATTAGAG GTGCTTCAAG GCTCCACTGA ATCTCCCAAG CTCTGAAGAT GTAGCTAGCT
 40 GTTACCGGAT TGCCGGTTTT CAAGCCTCGC CTCACATGGA CCCTCTTGGC AGTTTCTCGC ATGGGGGAAG
 CATCCGCTAC ATAGATGGGA ATGAAAAGAG GAAAGAAGAC GGTGCAAACT CAGGCACACC CCGGTGCTGT
 CCACCATGTC TAT¹TAATCT CTGAGGTGTC ACCCTTCTTG GCTTTATTGT CTCTTCTGCT AAGTCTCTTG
 TCCTCTCTC CACACCTTT AATCAGGCAT CAAAGACTTT AACCAAGTTT GCTGTGTGCC CAGGCCACT
 CATTCTCACT TTTATGGCAA AGGGAGTGGG AGACAGAGAG ATAGCCAGAA AGAAGAGATT GGGGACCCCA
 45 AGACAAATGT TAGAATTTTA ACCAAGGCCA CCCTGTGGAG AGGAGATTAT TGGGTTT¹AGT GGAAGCAGC
 AACTGGCCACA ACCACAGCTG GCAAAAGCAT CTATCGAGGA GTGAAGTTAT ATTTGGTGAA TGTGACCGGG
 AAGCAAGGGC AGT¹GTGTCC TCCTGCCTTC CTGAGCACT CTGTGCCCTT ACCTCTGCGA AGGCTTATT
 TACCCCTGAG TGC¹TAGTTT TGAAAGCCTT AGTTCCTCT CTCCATAAA AAAGCTCTAC TCTGCTAACA
 TCTAAGTTAC CTTTGCAGAG TCTTAGGTAG AGGGAGGAAA TCCCAATAAA GATTCCACCC TATCTGCAAA
 50 ATACAAACAT GGTATTTCTT GCATTCCCAA AATTTGTGAAA GAAAATGTGT ATGTGTCTGG TTCTAAGTTT ATTTCCAGA
 CATTTTTGT TTGAICAAAA CCTAAATATA TTTGATGAAA ATATCTGAGT CGAGTAGGAG CTCCGGGCTC
 AAGCCATGTT TACTCACTTG GAATTTATAG ACATCTTATA ATATCTGAGT TTTAGAATAA AGAGGAATCA
 TACCTCACTC TTTTCTCCCA CACCCAGGGG GAAGTGTAGG GTTCTCAGAC TTTGACTCAA CAGGTCTGGG
 CCTGGACAAC TCACCTAAAA TGCACATCTT CAGGTCTCAT ACTCAGAGGC TCTGACTCAA AAGATGCCA
 55 TGGCGCCCAA GAA¹TTGGGC TTTAAATGAG TATCTCAGAT GATTCTAATA CAGAATGTGT AAGATGCCA
 GATCCTATCA CACTAGATG TATTGGCCTA GGGCCACCTA ACTTGGAGAA AATGTAGTA AGACCCCGTG
 GTTGGTGCTC AGC¹ATAGGT ACCAGAATTT TGATAAAAGT CTGGGAAAAT TGTGACACT CTCTTCGGAA
 CTGGAAGGCC AGA¹CCCCAC TTGTAAGTG TAGCCAGACT GTTTGTTTC CTGGCCATT CTGATGCTT
 GAATCTTAC ACATGGAAAG TAAATGTATA AGAATTCTTA TAGTTATTCT CTTTCTCTC CTGATTCCAG AGGACTTTGT
 60 GCTAAAGAAT TAA¹CAAAAT ATGTATATAT TAGTTATTCT ACTGAATT TTCATGTGCT TTTGCTTCC
 AATTCACATA ATTCTTCTTG AGCTCCAGG ATGATCTGAG GCTTTCTGCT TGGGGACCTA AAAACTAACT AATGGGAATT
 TATTTGGCAG CAT¹TATCT TGAAGTTTCC TGTGTAATTC CCAAAGCGGA AGAAACAAGT GAGGATCGGG CTGGTTAATT
 TCTTCAAAAT GAGCAAACTC TAGCCAGACT GTTTGCCGAC TGTGTGCTT TGTGTGCTT GTTTGTAAAG TCAGAAATTT
 AAGAGAACTT TTCTGAATG AGA¹CCCCCT TTTGTTCTCA CTTGCTCTCT CTCTGCTCTT GGCCACTTTT AAACATAATA
 65 GGATTTTAGA TAT¹ATTAGC TTTGTTCTCA CTTGCTCTCT AGCACTAAAA GGACACAAA GAGTAGGAGA AAAACCTGGA
 CCTGAAGTAT ACTG¹IATTAG AAAATGTAAC AATTACAGAC AGCACTAAAA GGACACAAA GGCATAAGAA
 AATGGGTAAC TTTTCTTCT TCCCCAAATC TAAATAGGT TAAATAGGT GATTTTGGAG ATTATGTAAG
 TTTTCTAGAT CTCTTTAGAG CTCAACAAC GATATAGTTA ATTATGTAAG TCTTTGATAT TTGGAATGA

TTGGATTAAC CGGA.TAACAA TGAATATTTA AATACAGTGA TTTGGCCAGG AGCAGTGGCT CATGCCTGTA
 ATCCCAGCAT TTGGGGAGGC TGAGGCGGGT GGATCACCTA AGGCCGGGAG TTCCAGACCA GCCTGGCCAA
 CATGGTGAAA CCCCATCTCT ACTAAAAATA CAAAATTAGC CAGGCGTGGT GGTGCAAGAC TGTAAATCCCA
 GCAACTCGGG AGGCTGAGGC AGGAGAATTG CTTGAACCCG GGAGGCAGAG GTTGCACTGA GCCAAGATCA
 5 CGCCATTGCA CTCCAGCCTG GGCACAAGA GCGAAATTCC ATCTCAATAA ATAAATAAAT AAATACAGTG
 ATTTAACACA AGAGATTCT ATTTACACT AATGAGCTCT GTCACTGGGG CAAGCTTCTT TGCCTCATT
 AGTCTCAGAT TTCCGAGAG CTTATTTATT TATACCAAGA GTGCTTTACT ACCGTCTCTG CTAGCTGTGA
 CATAATATGA CAAAGGTAT AAATATGGGA AAAGGCACTA ATTTATATCA AAGCGTTCTT CGTTTTCCCT
 TGCTGTGAAG TTTTAGCTA ATAATTCATA AGAATATACC ATATTTAGAG TGTTTACTAT GCATGGGCCCT
 10 GGCATTTCAC ATACATTGCT TCTTACAAAT TTTACAAAGT TTTACAAAGT GAAAGGTAGA TATTAATCTC ATTTTATGGA
 GGACAAGATA GAGATCTGGA GAGGTACAT AACTTGCCAG TGTTTTTTCA GTTAATAAAT GGTAGGGTGG
 AGATTCAATC TGCTTTACTC TAAAGTCCGT TCCTTTTTTA TTGGCTCCAT GCCTACTCAG ATTTAAATCT
 CAGCAGGGA GTAACCTTA GTTTTTACAT GAGAAAATGT TACAGCAGCC TTCTCGGCTT CCTTTACCCC
 CATCCCAGTT TCACGAGCTT AGTGCCTTAG ATCGGGTTCC TTTAGAAGCA GACCTCGAAA TAAGGATGTG
 15 GGTGCCAGTC ATTTATTGAA AAGATGATCC CAAGAAAGCC TAGTAGGAGA GTGAGGAAGT GAGATGGGGA
 AAGGAAGAAA CTCACAAGA AGTGTGTTAA TAAGCAGGTT ACCGCTGTGG GCAGCCATGG GGCTCAGCTG
 CACTAACAAA CTCGTCTAG TACAGAAAAC CTCAGGTCTC CCCAAGGAG GGGCAAGAAG TCTGTAGG
 GTATATATCC GCCACTCAG TCACTGGCTG AGAGCTGATC CTGGGAGGGC ATGGTTAATT CCTCTGACT
 20 TTCAAGTGGA TTCTGTGGT CAGAAAAAGC CCTCTACAAT GAATTCCAGA TGCTTGATT TAAATCTGAC
 ATGATCTGAA TGCTGTGTTG GGACAGGGTG GCGGTTATTA GTTTCTGTC ATTACTGTAA CAGATTACTA
 CAAACCTGAT GGCACAAC AACACATATT TATTATGTC TAGTTTGTGT GGGTCAGAA TACAGGTTAG
 CTCAACTAGT TCTCTGCTC TAGGTTTAC ATTGCCAATA TCAAGGTGTC ATCCAGTTGG GCTCTCTTG
 GGAGGCTTGG GGAATGAATCC ACTTTCAAGC TCATTGAGAT TGTGGCAGA ATCCAGTTCC TTGTGGTTGC
 25 AGGACCAAGG TCCCTGTTGC CTGTGTGGCT GTTGGCCAGG AGTCATTCTT AGCTTCTAGA GACTACCTGT
 ACTCTCTGAC TCGTGTCTCC ACTTCACCTT TCAAACCAGC AGCGGCTAGT CGAGTCCCTC TCTTCAAATG
 TCTCCAAC TGCTTTCACC TCATTCTCC TCTGTGTACC ATGTCTGCCT CTACTGCTTG TAAGGGCTCA
 TGGGATTACA TTGATTAT TCAATCCAGG TAACTCTCCA TATTTAAGG CTAGCTGACT AGTGATCTTA
 ATTCCATCTA CAAAGTCCCT TCCAATAGTA CTGTATTAGT CCATTTTCAT GCTACTGATA AAGACATACC
 30 CAAGACTGGG CAAATCACA AAGAAAGAGG TTTAATTAGA TTTACAGTTC CACATGGCTG GGAAGCCTC
 ACAATCATGG CAGAGTCAA GGAAGAGCAA GTCATGTCTT ACATAGATGG CAGCAGGCAA AGAGAGAGAG
 CTTGTGCAGG GAACTCTCT TTTAAAAACC ATCAGATCTC ATAATACTTA TTCACTATCA CAAAGACAGC
 ATGGGAAAGT CTTGCCCCCA TGATTCAATT ACTCCACCA GGTCCCTCCC ACAACATGCA GGAATTCAG
 ATGAGATTG TGTCGGGACA CAGCCAAACC ATATCAAGTA CCTAGATTCA TGTTTGATTA AACAACCAGG
 35 GAGCAGAAAT CTTAGGAGT GGGGGGCATC TTTAGAATTC TGCCACCAA GGCTGGGCGC GGTGGCTCAC
 ACCTGTAATC CCACACTTT GGGAGGCCAA GGTGGGTGGA TCATGAGGTC AAGAGATCGA GACCACCTG
 GCCATGGTGA AACCCATT TACTAAAAA TACAAAAAT AGCCAGGTAT GGTGGTGGC ACCTGTAGT
 CCAGTACTC AGGAGGCTGA GGTAGGAGAA CACTTGAAC CCAGGAAGCG GAGGTGTGAG TGAGCCAAGA
 TTGCGCCGCT GCATCCAGC CTGGGAGACA GAGCAAGACT GTCTCAAAA AAAAGAATTC TGCCATCAT
 40 AGTAGGCTGT CCTCAGAGA CATAACCAG GAATTAGGTG AATGGCTAAC CTAAATTAGC ACTGTGATG
 GTTTCTGAC TTGCTCTTA TAGCTCTCT ATATATCCAA AGTACAGGAG ATATTATGGG TGCCCTATC
 TAGAGTTTGA AGTGAGGATT AAATATCCAA TATTAGTTT TATATCTCAC TTGTTCCTAT ACTCTGTGAA
 GGCATTTATC TTTCTGGAT AATTCATTT GCCAGTCTC TTGAACAATA ATTACGATTA TTAATCTAGC
 CTGATGTCCC AATIGGCCAC TTCACATTAG ACACAGCACT TAGGACTTAA GAATACCATG TCATTTGATC
 45 ATCATAATAT GGTAGGAAT TAAGTATTG TATCCAAAT TTACAAAGAA GGCAGTGGG GGTAGGTTT
 AAATAACTTG TGTAGATGT CATAGCTGT AAGTGACAAA ACTAGGACTC AAATACAGG CTACTGACT
 CCAAAGTCTA TGTCTTGGC TACCACACTG CCTCTCTAC AAGTGACCTG TGGTTTTACT ACTATATTCA
 CACTCTACTA ACTTACCAT CTCCCATGAG TCTGTCTAGA GGAGGGCACA CACAGCACAG AAAACACATG
 AATGCAAAAT AAGGAAGGGC TACTTACTA CACAGAGCCA TTCTAATACC TGATGTTTGC TCTAATCCAG
 50 TTTTACTATT AATTAGTTG TGTTGCCAA GTTTTTACTG AGAAATGGGG ATAATTTTGG AAGTCATAAT
 GATGCCTTCT TCTATAGGG TATTTTATTT GTTGTGTAT CTCCAGGCC CAACACAGCC TGGCTTTTAG
 TAAATGATCA AAAATACCTG TTGAATGAAT AAATGGAGTC ACCTGAAACA TGTAAACAT TTGTTCATGT
 GTCCTAATCG TGGATTTTCA GATAGTAAGC ATCCTAAAAG GAAAGCATGC ACACTGTTCT TGCTACATTA
 ATTTCTCACA ATATAAAAA AGAAAAGCAT CTGAAAAAG CTGCCAGCCG CTGTGTCTCC TAATATCAAA
 55 CTGAGCACAG ATAAGGAGAA GCTAAGGGAG AGGGATGATG GGCCATGCCT CTAACCTCAT CATGGCAAAA
 GTCCTGGGGG TCAGACCCGA GGAGAGCAGG AAGTGTCTTT TGAGGGATAC ATTTCCACAG TGGAAATAAT
 GAGACTTAAA TAAATATTAT ATACACAGTT CAACTGTTTT TATGTGTAAG GGTAGTAGGT TTTCACAGTA
 AGGAAGCACT TCTTTTTT TTTGTTGAG ACAGAGTCTC GCTCTGTCTC CCAGCCTGGA GTACAGTGGT
 GCTATCTCG CTCACTGCAA TCTCTGCCTC CTGGATTCAA GTGATTCTCC TGCCTCAGC TCCCGAGTAG
 60 CTGGGACAAC AGGIGTGTG CATTACACT GGCTAATTTT TGTATTTTA GCAGAGATGC GGTTCACCA
 TGTGGCCAG GCTGATCTCG AACTCTGAC CTCAGGTGTT CTGCCCCCT CTGCCTCCA ATGTGCTGGG
 ATTACAGGCA TGAGCCACTG CACTACCAA GCATTCTAC TGATAGCATT TACAAACCCT TCTTAGAATA
 TTTAAAAAT CTAAGAGA AGTAAATTGA GCCTTCCCAA CTAATACTAG GAGGTTATAA CCTTCATACC
 65 AAAACTGGAC AATGCTTGCA CAAAAGAAG AAGCCAATGA GGCCACCTAG AAGGAAGACT GGGCATTGGG
 CCCAGTGAGT CCTGGAACCC TCATCTGTG CAGCCACCCC GTATGAGTGG ATGAGGGTGA GTGAGGTGA
 CTTGTCCACA GACAATAGCC ATCTAGCTGT TGTAAAAGCT TCAAGGTAGT CAGCTGCATC TCTTACCT
 GTTGCCAAT GTTACACAGG TTGAAAAGCT AAGGTTTATG TAAAGCAAGC ATCAAAGATG ATGAAATGAT
 CAACCTGACA ATGATGACTA TGCTGCATTG TCCAGAAAGG AACTGTGGAA GATTTTGGG TGAATTTCAA

Variable	Mean	SD	Min	Max
Age	35.2	10.5	18	65
Gender	Male			
Marital status	Married			
Education	High school			
Occupation	Manager			
Income	10,000	5,000	5,000	20,000
Health status	Good			
Exercise frequency	3 times/week			
Stress level	Low			
Sleep quality	Good			
Dietary habits	Healthy			
Alcohol consumption	Low			
Tobacco use	Non-user			
Family size	3			
Work hours	40 hours/week			
Commuting time	30 minutes			
Living space	Urban			
Neighborhood safety	High			
Access to green spaces	Yes			
Proximity to public transport	Close			
Availability of recreational facilities	Yes			
Community engagement	Active			
Perceived social support	High			
Life satisfaction	High			
Overall well-being	Good			

5 ATAATCAAGA CCAACAGAAC CCTAGAGAAA ATAGCTCACT CCCTAGCTCG GAGACATTCT AACCAACATA
 CACTTACCTT TCTTTTGTCT GTGTACAGAA TTCAAATCCC TGTCTCAGCA AAATTGCAAA GTATCAAATG
 TCATGTCCAT CTAATACTCA AAAGTCAAAA TGTAAAGTCT TGTAAGCCCA GAGACCACTG TATATACAAAG
 TGTGTCTATA AGCAATTAGTT CTCTCCAAA GAAAAATAGTC CACTTGGTAG AAACAAACAA AAAGAAAAAA
 10 AAAAGAAAGAA AAAACATTTT TTACAAGAAG ATTCACTCTC TTACCTACAT AAGCAAAAAT ATGAGATGTT
 CTCTTATCAT TTTTCCATCT ATCTTATAAT CTTTGGTGCT GACTTAGACA CTCATTTTCC TTTTGTACG
 TGACCATGTA AAAATTCAAG TCAAGAAAAA CTTGTTTTGA CATTGTGTTT GCTGAGTGAT GGGTCCCTAA
 AAGAAATTTG GCTTTGCTTT TGAAAAGTTC AGCATGATAT TGTGTGAATT TTTTATGGCT AATGATTTTT
 AGAACAGTTG TGAATGTGTT AGGTGTTTTA AGAATATGAA GCATTCACTG GTTTAAGTTG GTTGTTATAA
 15 AATGAAAGAA TATGAAGGAA AGCCTTCTTG TCTTAGAACA CACTGATTCA CAAATAAGCA GCTTCTCTCA
 AAATGTTGTA ATTAACAAAA TTCCAAGGCA AATATAATAA ACTCCTTGTC GGTGCTATGT CTAGAAACTT
 AACAGCCCCA AAGAAAGTCC TGACAAGGCA AAAAATATAT ATATATATAC AAATTGTGGA AGCAGGGTGT
 TGAAAGAAGA ATAAGACTA TATAAGGACA AACTGTTTAA AAGGGAGGGT ATCCTTGAAA GCTTGACACT
 TGACTCTTTT GACCAAGGCTG AGGGAACACA CTCAGTTTCA TAGATTGCTG GTACGGATGT AAAATAGTGA
 20 CATCCCTATA GAGAGGAATT TGGCAATATC TAGCAAAAGT GCTTATGCAT TTATTCTTTG ACCTAGTAAT
 CCCGCTTCTA GGAATAGTGG TGAAGATACA CCTCAACAAT AAAAATATAT ATACATTAGG TTATTAGTTA
 TGGTTTAATT TTTAATAGCA AAATATTTAA AACAACCTAC ATGAACAAAT AGGAGACTTA CTGAATAAAC
 TATGGTATAT CTGTACAATA AAGTGCAATT CACTTATGTT GTTAATTTGT TCCAAAAATC CAGAGCCAAA
 GAGTATTTGT TATCTCTCTT TTAGTATAAG AAAGGGGAAA TAAGATATGT GTGCATCTGT TTATTTTTGT
 25 GAAAAATAAGT ACAAGAAAGGA TAAGTAAGAA ACTAGTAAAA CTAGTTATCT CCTAGTGTTA GTAGAAATAG
 AATGAAAGTG AATFAGGCTT CTTTGAGTAT ATGTTTATAT ATAGTTTGA CTTTGAATT ATGTTTATGT
 TTACAGCCCA AAAATATATA ATTAATCAAC AGAAATACAT AAAAAAGAAG AAATCACAAG CTTTAAAAAT
 TAATACAAAC AGAATAAATT GAATCTAACA GTATATCAAA GTGATAACGT AAACTCAGAA GAAAAAACA
 30 TAATCCAACA TACCAAGTGA ACACAATATT CTAAGTGTAT ACATTCACTG GTTATAGTCT AAGGACAAGA
 AAAATTGCAA AAAATCTTTG AACTTTAGCT TGTAGGATTT TTATTGGTAG CAATACTAAT GTACTAATTC
 TGAAATTAAT GTTCTGTAT TATAGAATTG AGTAATGAA TAAATATGTT GATGTTATTG GGAACAAAAA
 TTATCATCTT GGGAGTAGAG AAATATAAAT ATGGCATTTG CAAATGAAAC AAAGACCTGC AGAGAGATAA
 35 CCATATAAAC TCAATATTTT AAAAATTATA AGTGTCTTAG CTCTGTTACT GAAAAGGCCT AGATTCAATC
 TTATCTTGAT AGACAGGAGG GCACCCCTTT CTCAGAACAT GGTTTCCAAA TGCCATTCTC CATTAAAAAGG
 AACAAGGTCT TCTTGGAGAA AAGACTGATT CTAGGTCTGG ATTAGGTAAG GTACAACGTT AGTCTGGAAT
 TTCTTGCTGA ATCAGAAGTA AGAAAGTGCT CAAAACATATG GGAACATGTC ACAAACACAC GTGAGGCAAC
 TTGAATCTTC ACTGCCATA TTTAGGACAA TCGAGCATCA AAAAAAAGAA AAATGTTGAG AATAATGGAT
 40 TCTAACACTT AAAACAAAA ATAATCCATA GCCCACAGAA GGGGAAGAGA GGGGGAGCTC TTATTTACAG
 ATGAATATCA AATAGCAAG ACAGAAGAAA TGACAGAATT AGAGAAACAT CATTGTGCAA AACACCACTG
 TAATAATCAA TTCAGGCAAG TATTATTAAT GGATGTATTA CTATTGCGTA AAACCACTTG GGGAACAGGA
 45 TATTCATTGA GTCTGAAGGT GTCACCCTAA ACATAACTTA TTACAAGTGG AAAATGGTGC CTTTACAATG
 AAGAAATCTA GCAGAAACCA TCTTAATCTA GTGATCAAAAC TTAGTATCAC CAATAATGGA TCATACTGAG
 TCATGTGTCT CCTAATATGA TGCACCAGGA AGGATGCAAC GTCATGAACG TTGTATTCTT TTGTATTCAA
 CAGACCACCC AGGATTAAGG CAGCTTTCTC ACTTACTAAT CAGAATTGTT GGTTTTAATT CATTTTGGAT
 50 TTTAAGATTT CTTCTTTCT TGTCAGCTCA GAAATTTATT TAAGATGATT TTTATCTTTT ATTTCAATACT
 TTAGCTTGGA GAACCATTCAG GAGTTTCTAA CTCATTGTAT TGCCAAAAAT AGAAAAACAGC ATGGTTTCTT
 TTGAAATGT CTAACCTTAA AGTTACTTGT GTGTGTCAC TTAGCTTTT TAGCTTTTAT GCCTTAATAT
 GTAGTATCAT GTGCAAGGC TATAAAAAATG TTTACAATCT TTTATTTAAT ATGACTCTTG AGAGTTTATT
 55 CTAAGGAAAT AATGAATAG TAACAAAAACA CTATTAACAC AAAGCATAGC AATTTGATTT GGGCAACCAA
 ACACCTGAAA CAACCTAAAT GTCCATTACA GGAATCATTT ATGAAGCAAA CACTAAAAATA TTTATTGTGA
 AGATTATGAG ACAATAGAAG ACAGTTATGA GAGTAAATTT ACAAACCTGA ACACAAAACT TACATAACT
 60 CCAATTGTAA CTTATAAAAA ATACGTGCAT ATAAGGATAA AACAGTACAA ACAAAAAAAT AGTTGCGTTA
 GATTGGTAGA ATTAATGGCTC CTTTGTCTGT CTTAATTTT TCCTTTTACA TTTTGATACA TTATTTTAAT
 TTTAATTTTA AAATTCAAAA GAATTTGCCA CTCATCTTTG CCACCTCAAG GAAAAAAGAA ATGTGTTGGA
 65 TTATTCTGTT CTTATATAG CTTTGGCAAT TTCTCTACGT GTAAAAAGAG AATACTATTA ATAATTCAG
 TATCTATAAG ACAATATAAA ATTAAGAAT CTAGCCAGT AACTGGTACA TGGAACGTAA TTAATAAATC
 ATTATGGACT TTTTCTCTCA CACCAAGTA GGGAGGAATC AGTGGTCCCC TAGAGGCCCA GTGTAGAGGT
 GGCAGCACCA ATCTTAGGG GAGAAGATCT TGGTGATGAT AATTCCTGAG CAGACAGTTA GCTGAGAATT
 CAAGAGCAGA AAAATAGAA AGAAACAAC TCTTGCTAAC ACCTTCCAC CCACGTTTCC CTGTTCTGTT
 70 GTACTCTGCT TACCCTTCA TGGATGGAGG CAGAGGAAA AGAACCAAGT TTGCTCTTAT TCATTTACTA
 TGTGTTTAA TCTGCCTTCC ATCTTTCTTA TCAGTTCAAA TTAGAATGTA GACCTGAATT TAAATCCCG
 TTCTGTCACT TATAATGTGA CCCTAGACAA AACACATTCT CTGAACCTCA GAGAACATTC TTCATTTGTA
 GAATGGGAAG ATTAACTAT ATTTCACTTG GATGGCAAGT CTTTATAAAA CTTTATAACC TAAACATGTG
 75 TGAGTTGCTA GTATCATTAT GTTGGTAAAG TTAATCTGAG ATATGATAAC AGAACTGTTT TGTCTAACTC
 CACTAGCTAG GTTCAGGTT AGAGAGTGTG GAATTAACAG GCTTTATCCT CAAATATGAC TTAATCCGA
 80 TTTTCTCAT CCACCTTCT CCACAAACAA ATCCTCAGGA AATGACAAAC TTTACATGGT TTTACATGGT
 TTTTGTTAG TCTTGTGAT CCACATGGTT AAATCATACA TTTGAAAAC GCTTATATTT GTGTTGCTA
 TGTCTAAAT GAAAGACTT ATTGAGGAAT AGAAGACTAC ACATTTTTC CAAACACTG CACGTTTTCG
 85 AGAATTTCCC CAGCACCAG TCTCCAGGAA TTTATTGGCT ACTAACAATA CTAAGATATG GATGAATGAG
 GAAATCAAAA TGGAAGTCTT GCAAGTTTGG TGAGAAATGG TGAATGGTCC AAATGAAGAG ATAAGTTGTG
 AAATATTAGT ACAAGTAAAA ATTATTTACA ATGAAAGACA TTTTGTCAAT AGCTATGAGA ATTTTACCAT
 TGACCCAGAA ATTCTATTT TTTCTTCAGA AATACCCACG TAGGTATACA TATAAAAAAGT TATTCATTAC
 AGTATCGTTT TTCAAGGAA AAAGTTTAA AAATCAGAAG CTATCTAAAC TATGGTATAT CTAGGTCATA

004040 " 6294569

65

5 GTACTAATTT ACTCTATTAG TCTGTTCTCA TGCTGCTAAT AAAGACTTAC TCGAGACTGG GTAATTTATA
 AAGAACAGAG GTTCAACTGG CTCACAGTTC AGCATGGCTG GGAGGCCTCA GGAAACTTAC AAACATGGTG
 GCAGCAAAGA GAAATTTCCAA GCAGAGAGGG AAAAGCCCTT TATAAAACCA TCAGATCTTG TGAGAATTCA
 CTATCATGAA AATAGCATGA GGGTAACTGC CCCCATGATT AATTTACCTC CCACAGGGTC CCTCCCATGA
 CAGGTGGGGA TTAATGGGAAC TACAATTCAA GATGAGATT GGGTGGGGAC ACAGCCATAC CATGCCAGCT
 AGAGAGCCTT AAGAAAGTCA CCTAATCTCC ACAAATAAAA GGTTTCCTAT TTGTTCAACA AAAATAATGA
 CACCCCTTTT ATGGGATTTT TGTGAGGACA AATGATAACT AACATAGCCT TGCATAGTGT CTGGCACAAA
 ATAGCTACTC AAAAATAAAT AGAAAACAACA TTTAAAAAAT GTAGACTTTA TTTTITAGAG TTTTATGTAC
 10 AAAGCAAAAT TGAAGCAGAA GTACAGAGAG TTTCCGTATA GCACTCCCTA CCCCCAAGCA CAGATAGCCT
 CCCCCAGTAT CAGCATCCCC CACCAGAGTG GTACATTTAT TATAACTGAT GAATCTATAT TGACGTGTCA
 TTTTCATCCA AAAATCCATAG TTTATATTAG GGATGCCTCT TGGTGTGTGA CCTTCTATGG GTTTTGACAA
 ATGTATAATG ACAATGTATT ACCATTACAG TATCATAAAG AATAGTTTCA CTGTCCTAAA AATCTTTGAT
 CTTCTTCTTA TTCATCACTC CCTCCCCATT AATCCCTGAC AACTACTGCT AATTTTCTCG TCTCCATTGT
 TTTGTCTTTT CCTGAATGTC ATATAGTTTA AATATACAGT ATGTAGGATT TTCAAAGTGG TTTATTTTAC
 15 TTAGTAATAT GCAATTTGATG TTCTTCCATA TCTTTTCAAA GCTTCATAGT TCAATATTTA TAGAATTGAA
 TAATATTTCA TTGCTGAGT GTACTACAGT TTATGTATTC ATTACCTAT CAAAGAACAC CTTGGTTGCT
 TCCAAGTTTC AACATCATAG AGTAAAGCTG CTATAAACAT CTATGTACAT GTTTTITGT GTTAAAGAA
 TTTTCAGCTT TTTTAGCTCC ATTCTAGGA GTGCAATTGC TGGATTGTAT GATAAGGGTA GTTTTAGTGT
 TGTAAGAAAC TGCCACGCTC TTCCTAACTG GATGTACTGT TTTGCATTCT CACCAGCAAT GAAAGAGTTC
 20 CTGTTGCTCC ACATACTCAC CAGCATTGG TGTCGTCAAT GTTTTGAGCA CACAGCAAT GATCTAACT
 TTCTTAGTGA TTCTTTTGA AGGAAATAAT ATGACAGATA ATAGAGAAAG GATATACGAG GACAGTTCTG
 TCCTTTATTT ATAGTCCATC ATTTAATGAA GGACTCTGTC CACACTTGGT ATTTTAACT CTGATCTCC
 TCTCCCATGA ACTCTGACAA TCTCCTAAAT CCCTGTTGCT GGCACACATG GTTGTGTATC AGGCCCCCTG
 TGGTCTGTCT GAAGCATGGC TTTTTTTTTT TTTTTTTTTT TTTTTTTGAG ACGGAGTCTC GCTCTGTCGC
 25 CCAGGCTGGA GTGCACTGGC GCGATCTCGG CTCACTGCAA GCTCCGCTC CCGGGTTCAC GCCATTCTCC
 TGCCCTAGCC TCCCAGTAG CTGGGACTAC AGGCGCCCGC CACCACGCCT GGCTAATTTT TTGATTTTTT
 AGTAGAGGCG GGGTTTCACT GTGTTAGCCA GATGGTCTC GATCTCTGA CCTTGTGATC CGCCCCCTC
 TGCTCCCAA AGTGTGCGG TTACAGGCGT GAGCCACCGC GCCCGGCCTT TTTTTTTTTT TTTTTTTTTT
 TTTGAGATGG AGTCTGTAC TCTGTACCC AGGCTGGTGC AGTGATGCAA TCTTGGCTCA CTACAACCTC
 30 CATCTTTCAG GTTCAAGTGA TTCTGCCACC TCAGCTCCC AAGTACCTGG GATTACAGGT GCCCGCCACC
 ACACCCAGCT ATTCTTTGT ATTTTATGTA GAGACGTAGT TTCACCATGT TGGCCAGGCT GGTCTCATTC
 CTGACCTTGA GTGATCCACC TGCCTGGCC TCCCAAAGTG CTGGGATTAC AGGCATGGGT CATCACATGT
 GGCCTGAAGC ATGACTGTTG CTTTAATCAT ATGAAATACT GCTCTGTATT GTTATCTATT TGAAATGCCA
 35 CACCTCCTGA GCTAATTCG AAGCTTTTAT GAGACACAAA CCATATTTAT ATATATTAGC ATGATACCAT
 GACACATATC AAAAGCTGTT ATATATTGTT ACGTGAATTG ATTCTTTCTC AGTTAAGAGG ACCTCTGTAG
 TAGCATTTC ATACCGTTAA TTTTTCATT CTGTCCAGC CCTACTCTG TGAAAAATGA AATGAATCCT
 GTTATCATTT CCCTCCCAGG CCTTTTCTCC TGTGTGGCTC TGTGTGGCTC TCAGTCAGTA
 AATTTGTTCA GTGACAAAC TCTTTATCAC CTCTCACTGT TCTCAAGTGA GATAGAACAG AACATCCATC
 40 CAGTGTCTTA CAAATTTGTCT GGTATATAGT AGGCACTCAA TAAATGTTTT TTGAATAAAT GCATACATGA
 ATCCTATTCC TATATATAGT ATGGTAGACA GATCATTGAT ACCCAAAGAT GCCCAAATGC TGATCCCCAG
 AACTTGTGAA TATCTTACAT TTCTATGTCAA AAGGGACTTT GCTAATGTGA TTAAGAGTTC AGACCCTTGG
 ATTGTAAGAT TATCCGGAT TAACCAGGGC CAATCTAATC ACATGAGACC TTAAGAGTTC AGACCCTTGG
 TCCCAGCTGG GTTAGAGAGA GATGAGACAG AGTAAAAAGG AAAGAGATTC AGGGCATGAA AATGACTCTA
 45 CCCACTGTTG CTGGCTTTGA AGATAGAGGA ACTAGGCCAC AAAACAAGGA CCTCTGACCA CATTAGAGAA
 TAGGAAAAAG CCCCATCTG ACAGCCAGCT AGAAAGCAGT CCTCTGACCA CAAGAAATG GATTCTGCCA
 ACCACTCAA TGCACAGGA AATGGATTCT CCCCTAGAAC CTCCAGAAAG GAACACAGT GAACCTTGGC
 TTGATTTTAG CCACGTGAGA CCTGTTTCAG ACTTTTGACC TATGGAAATA TAAGATAATA AAGTTTTATT
 GTATGCTGCT AAAATTTGCG TAGTTTATTA CTGAAGCAAT GGAAAGCCAA TACAGACAGA ATATACAGAG
 50 AGAAAGAGAA TGAATTTCTT CCTGATAATT TGTAATATT TGGGTCTTCA TGGGTCTTCA CTGGACAAGC
 ATTCAGTGTG TCCCAGTAA ACCAGCATGT CCAGTCTGCG AGCCTCCCTT TCTTAGGCCC AGCATATGTC
 AGCTGTGTGT ATACAAAAAT CAAAGCAGGA CCTGAGTAG TTGGAAAGAA AAGATGGGTT GAAATGGGTT
 GCACTTCAAG TGACGAAACA AGAGGTAGGA GACCGGCATC TCTTTCTCAT ATGTCCCAGG CTGACTCTTG
 TGAGTTGTTT TCCCITGGAG GCTATCGATG ACAGTCACAG TAACCTGATG GAACCTGGAT CATGATGAAA
 55 GAAGTAAGTG TCAATGGCTC CGACTTCCAA GGACTCTGAT GTCCCACAGC ACTAGCTAAA CAAAGCCAGT
 TGGAAATGAG CTTAATGGG GAATTTCTCG AATATATTCC CTATTGTTAG GAAGCCAGGT TGGCTTCCCT
 GCCTACAATT ATGCCAAGCA GTCACACTAT AGAGTCCCTA GGGACATGAT ATTAAGTGAT TCTTTTAAAC
 CAAACAACCT AATATCATT TATACTAATA GCAAAACGGC CAACGGCTGA TATTCACCTT GAAGTAGAAT
 TGGCTATCCA ACTGGAAGAG AAGACAGGAA GACGTGATCT CCAGGGAGCC ACTAAAAGGA TTGGCACCTG
 60 CCTCTGGATT CCCCTTTTCC TTATATTACC TCTCAGCACT GGCAGGCCTT TATTTTCAAG TACAGTTTCA
 CAAGTATTAT GTCAGTCTC TGAGAAATTAT TGTGTTAGAT ATTTGCTCCT CTGGCCAGAA AGACCTAGTT
 TGGAGTCTGG AGTATGAAG GTGACATACA TGTAGCTAGT GACATAAGTG TAGCTAGTAA AAATAGTGAG
 TAATGGCCCT GAAATTTCTAT TGAATGCCCA AAGTGCTGAC CATGCTCTAG CTTATCTCAC
 AAGGAACTTG ACAATTTTCT TCAAAAATCC TAGTAGCTAA ACTAAGGCAC ACTAAGGCAC
 65 AATTATGATT AACCTGACCC TTAGGTGACT TTAAGGACT TTTAAGGACT ATTCTATAAA TAATAGTGGA
 TCCAAAGCCAG CACACTCTGC TATATAAGAT TAATTGACAG TGTCCACACT GGTAAAAATA GTTGTTCAT
 AAATACATTA GAAATCATTT GCACCTTCTA CACAGCCCCA AGTCCAGAAC TTTCCCAGAG ATAGGTCTAT
 GTTTTGAAT CTGCTACTCC ATACAGAGAT TTAGGTTTAC TTGGCAATTT ATATGTGACC
 AGTTAGTCTG TTTTACTTAT CTATGCCTTA AACATTACTA TACTTACTAA CTCCAAGATG CCTGGTCTCA

004040 " 6 4 9 4 5 0

	ACTTGACAAA GATGATCTGT TGGGAATAGG CGTTAAATAA 5 CACTCTGAGT AGCTTAGGAG TGGCAGTTTC TAAATGAAAA CATAAAAAAC 10 CAATGGAATT AGGAATTAAT ACATTTTAAA TGAGAAAAAG TTGGTTGTAG 15 AGAGCATATA TATCAGACTA ATATATTTTT TAATGTCATA TGACAGTTAT 20 AAACAGGAAA ACAGCTATTCT TCCAAGAGAG TTGCACCTTT GCAATGAGCT 25 CTGAGAGCGG GAGACTGCTG AATCAACAGA TGGTGAGGGA AAAAATATATA 30 AGCCCCCACC GCCAAGGTAC ATCTACTTCA TCTACTCCTA TAGCCTTG TG 35 TGTGAAGGTA ATAGTATGGG AGAAATTCTG TTGCTAGGCA TGGTTATAGC 40 CATAAACAAA TAAACACATA ACTGAATAAT ATTTTGCCCA GGGGCACAAG 45 CATATGTCAA GAGAGGAAGG AGGATTTTGG TTATGAGTCC CAACTCCCTA 50 CTTGCTTAA TTAAACAGAA TAATCCCAGC AACATGGTGA TCCCAGCTAC 55 GATCAGACTA TTAATGTTTC ATGGACCTTA CTGCCATTAT TGCTCCTACA 60 TCTTCTGACT AATTTTCTTC TTAATTGATT ATAATGTGGT CAGGAGAGAT 65 ATTTTTTTTT TGCAACCTCT CCTGCCACAC GAAAGGAATG	AATACCCCAA CTTTCCTGT TGAGAGAGAG GACGAAAAAT TCCCGGATGT AGAGGCATGA TTACAAAATT AAAAAAAAG TGGAAAAAAC ATGCTTAGCA GCTGAGTGGG AATGCAAAA GTAAGGTGTA TCGIGATTGC AAACTGGTGA CAGTATACA GCAATTCCT AACTGATG AGAGGTATA GGCAAGCAGT ATCCAGAAAC AAAATGGATA AATCCGACT ATGATTGATT AGAAGAAACA GCAACATGG CAGAAAGTGG TGGAGACAT ATTGAATATG CAAATAAATC AGAGGGGACT GAAAGCCATT AGTATTTACA TGTCAACTTG TTTGATAGT TGGGCTCAT CCTCAAGACT TTAATAACAC AGGCTTATT TTGTTGTTA ACAAGGATGA TCCAATTTA CTGGTGATGG AAAACCTTTG AACATCAAGT AAGAAAGTGG AGTTAGATT ACAATAACCA ATGCTTGCC ATGTAAGCCT TTGAAGCCT AATTGGGAG ACAGCTGTCT TACAGGACT TTGCTATTCTA CTCCTTGCC ACCTTGATTT TTTTGGAATT AAGCTCCCC CTTTAAATCA CATAACCTAT TATAAGATT ATAICTGTGA ACGTGGAAGA TTGAGATGGA GTCTCCCGGG ATGATGATA CCTTTATAG ATGACAAACT	GTTGGGAAAT ATTTGAGAAA AGAGGAATAC AAAAAAGGAA GAGACATCCA CCAAAAGCTG AAACATGTAC CATTTTTTTT TGAGATGTCT ATAAAGAGAA AAAAAAGCA TCATAGAGAT AATATAAAGG AGGAATCTAC CATGTGAAGA AAACATTGTC GTGAATCCGT GTTTACCTAG GCTCAGAGAA ACTGAAAACA ACAGCCTCTT ACCTACAAGG GTGCTATCGC AACAAATCTG CCTTTGACCT GAGAAACAA TGTGATATAT TATTAATGCC ACTCTGTTCT TAGAGGAACT TTATCAGTTT CAAGAGAAAT GCTAGGCTAT GTGGTTAACA CCAATCAATT GCAGCCTCAA ATCAGCTAAT GTAATAGCCA TCCACAATTT ACCTTAAAAC TTGAAGTTCT AGGGGGCGCA AGGGTGATTG TATACACTTT GCAGGGTGGG TTAAAAATGAT CCAGGAAGTC TCTCTATGAC TCTTTCTCTC ATTATTTGTA GCCGAGATGT CTACTAAAAA GAGGCAGGAG GGCTAGGAGA GTAGGAAAAA GTGGCACTAA ATGCTCTCTC TGGCTACTTC CATTTACTTA TCATTCAACA ATAGATATGT TAGAAGTATT AAGGACGTCA GTCTCACTCT TTCAAGTGAT AATATGATCA ATGACAAACT	CCTTATGTGA ATGGAGATAA ATGGTGGCTC TAATTTGGTT GGCGCATTTA GTGGGACTGT TAACAACCCA ACACAAAAAC TTATTGAGTG AAGAAGTATT CATCTCAAAA GGAGAACAGA GGTAGCACAA TGTGATAAAA ATTGTGATTA AGTCTCCGCAC ATTGAGGGAA AATTATTTAA TGATAGCTTT CTTCTCTCCC GGGAAGGGCT GCGCTAAGAG TAAGAAAAAA CTGAGGTGAG ACTCCAACCT ACCAATAACC AGCCTGAATT TCGTAGTTCA CAAAGGTCAG AAAGGAGCTT CTCCCCATTC AGAAGCTTAA CTAGAAAGTT GAAAAAGTGT AATACCCAGT GCTACAATCT GAAGGCCCTA CTCTGCCTG TTCTTAAAT CAAACCTGGA TTACGCAGCA CGTAAGGCTG AGAAAAATGAG GGTATTGTAG ATATGTTTAT TAAAACTTTC GGAGAGGAAA AAAGGATGTT ATGTATGTTT TGCGTGTGTT TTTCAACACA CAATTAAGAA GTGGATTACC TACAAAAAAT AATCGCTTGA CAGAGTGAGA GGCTCTGACT TTCCATTGCA TCCACTTTGT AGCCCCAGA TATATGATCT AATCAACAA TTGAAATTTT AGTCAGAGAT GAGCCTTTTT GTCTCCCAGC TCTCTGCTCT TTCTTTCTTG CCATTTCTCA AGAACAAAGGA CTATGGCAAT CCATGGGGAA CCTACAGGCA CTAGACTGTG CAGCTTCCCA TTCTTTTCTT AGAACAAAGGA TTTTTGACCA TTTGTGACG AATGCCAAGT CTGCAAGTAG CATAACTCCAG TGGAAGAAAC GTGGTGCGAT AGTAGCTGGG CCTCAGTTGT TTTTTGACCA TTTAAATTTT	AGTCACAATT TCCAAATAAT GCTTAGGCC ATAATGAGCT AGTTGGAAGC GGCCATTCTG TCTTGAGCAT AAGTTCATAG CAAAAGGTGG ATAACACAGA TGTACTATTT CTGTGTTTTG TGGTTGAAGG TCTACATACG CATCAGTATC GGGAACACAG TATACTACAT TGCTATAAGA TGAAATGAGC TAACTATATC ATAACAATAT CACCATAATTC GAGCCAGGA GCTAAGAGCT TCAATTTTACT TCATCAGATA AAGCAGATAA ACTCAACCCA TAGCACAAC ATACTTGCTG GCAGGAATGT CCACCATGCA TTGTATTTAA AATAGTAATC AGTAAGGAG GTAAGGTTTC CAGCCAGCCA ATATATATTG TGTCCTTCAA ATAAATGGTT GTCAGACAAA TAGTAACAAA AAAGGACAAC CATGGTTTCA ATATCTATTA GAGGAAAGGC GGCATATGAC GTGAAGGAT CCAATCTCC CGTGACAAAA GGTGTGATGA AGTTCGAGAC AGTGTGGCAG TGGAGGTTGC AAAAAAGAAC GGCATCAGAG GCTCACTGGC ATATCCAAC TGCTCTGCAG TTTGTTGACG AATGCCAAGT CTGCAAGTAG CATAACTCCAG TGGAAGAAAC GTGGTGCGAT AGTAGCTGGG CCTCAGTTGT TTTTTGACCA TTTAAATTTT	GCTGGTTGAT GGATTAAACA TAAACACTTT CAAGTTTTAA AACGTTCCGG GAAAACTGTT TTGTCCCAGA AAGTGTATT TCTATCCATA TGAATCTCAA TATTTACTTA GGATGGGGAG ATTCTATGTC CATACACACA CTAGTTTCAA GACATTTGGC ATCAAAAAAT CTACTGAAAA AAAAAGAAATG TGCGACTTCA GTTTTCACTC ATGCTGTGGC GTTCAAGGCT AAGAACACAG GGAGTGAGCT TTTTTCCACC ACGAAGGCCA AATTCCAAAC CCCGCCCTCC TTTTCTCACA AAAAATGAAGC GCCAGGCCAC AGGTGATGGT TAGGTGCATC ATTGCTCTTG CCGAGAGAGA GCCTAAGAGT ATACAATGAA GAATAAGGAA ACTAATACAT AAGCAGAAAA TGGATAAAG TAGGTGCATA TACTTCAGTA CCTAATAGGA GAATATAGGA AGTGGAATT TTCCAAAGCC TAAAGTTTCC CTCATGCCTG CAGCTTGGCC GTACCTGTAA TGTGAGCAGA ACATTTTTTT CTCTATCTAA CTGTGCCTCT TCTAAGGCTG TTCAGGAGAT TGTTTACTTT TAGAAAAATA AAAAATAATT CTGGAAGTT ATTAAGAAAA CTCTGCTCAC ATTACAGGTA CTTCCCTGAA
--	--	---	---	--	--	--

[illegible]

65

5	CAATGAAACA	GCA^AAAAAG	ACCAGAACTA	TACCTAATTA	TGATGAAGAT	TTAAGGTATG	ATAAACATGA
	CATAATTCAA	ATCAGCAGAA	ATTGGCATAG	ATAGGGTTAA	GACAAATAGC	TAATCATTAG	AGGGGAGGAA
	GGAAAGGAGG	GAGGATAAAA	TTAGGTTCTT	GCCTTCATCT	TACATTAAAA	TAAATTTCCG	ATGTATTACA
	TTTAAATTTT	TTTA^AAAAA	GAAACACAAA	AATACTTGAA	GAAATAATAA	GTGTGTTATAT	AGTCTTTTGA
	TGGGAATTTT	TTTTTTTTTC	AGAGACAGGG	TCTTGCTCTG	TCACCTAGCC	TAGAGTGCAA	TGGCATGATC
10	ATGGCTCACT	GCAGCCTTGA	ACTCCTGGGC	TCAAGTGATC	CTCCCAGCTC	AGCCCCCAG	GTAGCAGGAA
	CTACAGGCAT	GCGACACCCC	ATCCAACTTA	TTTTTTATTT	TTTGTAGAGA	CAGGGGTCTT	GCTTTGTTTC
	CCAGGCTTAT	CTCC^AACTTC	TGCCTTCAAG	CACCTCAGCC	TCCCAAGAGG	CTGGGCTGAT	GGGACATTTT
	TTAACATAGT	GCCA^CATTAC	CATAAATGAA	AAGCTTGTA^	AATACTAATT	TTTAAAACTA	ATATATATCA
	GAAATTTTTA	TAAA^CAAAGT	TAAAAAGCAA	ACACAAAAAA	TTTGTAGCAC	TTATGACAAA	TATATGTATA
15	TATATGAATA	CAA^AAGAGC	CTTTACAAAA	CAGTAAGAAA	ACAATGAATA	CTCCCAATGG	AGTATTCAAA
	ACTAAACTGC	TAA^AAGCAAT	TCAAAAACAAA	AAACATAAAC	TATGCATATA	TGTATGTGAA	AAAGTTTAA^
	CTTATCAAAG	AAGT^AAACTC	TCAAAGAAAT	AAACATCAAA	TAAGGAAATA	GCCTTTTCCC	ACAAAATAAC
	AAAATCTGTA	AGA^TACTGA	GCTGCGAATG	TTTCAGAAAA	AAAAAAAAT^	CATACACCTA	GTTCGGCATG
	TAATTAATAT	AGA^T^CAGAAC	ACTTTAAAAA	TATTTATAGG	CCAGGCACGG	TGGCTCATGC	CTATAATCCC
20	AGCACTTTTG	GAGG^CCAAGG	CGGGTGGATC	ACCTGAAGTC	AGGAGTTTGA	GACCATCCTG	ACCAACATGG
	TGAAACCCCTG	TCTGTACTAA	AAATACAAAA	ACTAGCCAGG	CATGTTGGCG	TATGTTGGTA	ATCCTGGCTA
	CTCGGGAGGC	TGAGGCAGGA	GAATTGCTTG	AACCCAGGAG	GTGGAGTTTG	CAGTGAGCTG	ACATTGTGCC
	ACTGTACTCC	AGCTTGGGCA	ACAAGAGCAA	AACTCTGTCT	CAAAAAATAA	TAATAAATAA	AAATAAAAAA
	TTTATATACT	CTGACCCATC	AATTTGTCCA	GCATAATTAG	GCATGTGTAC	AAGGGTTTAC	ACACAAGAAT
25	GCCTATTGCA	ATA^TGCTTT	TAATGCTAAA	AAAAATTGGG	GAAAAATGCTT	TAAAAATATA	GATTAAGACT
	GTACATTGTG	GTAC^AGTCAT	ATAATCAATA	GTATACAGCT	ATTATTTATT	TTCAGCCACT	GTCCAAAATA
	TAGCCTGGCC	TAAC^AACATT	CTGTTAGGAT	ACGCAAGCAC	CGTAGGAGA	TACGATATAA	AGTCAACAGT
	TTTCACACCA	CTGCTCCTTT	GCTAATAACC	TTCAATGGCT	TTTAAAGAAG	TAAAAAACAA	AGGCAAAATT
	CCTTAGTCAG	CCCT^AAGAC	TCTCTGT^TAC	TTAGCTCAAA	CTACCCTTTT	CAACAACACT	GCCCTAACCA
30	GGATGAGTTT	TTT^CCCCC	TGGAGTACAT	TCAGCCTTTC	CTTATCAAAC	CTTCTTTTAA	ATAAGTATCT
	TCTCCAGGAC	CAC^TCACTT	TCTTCCCAA	TTTAGCATTT	CTTATATCTC	CAGGCC^TACC	TCTATAAGC
	CTGTCCTAAC	CAC^TCAAACC	CTAGCTTTT^	CTCTGAACTG	CTAGAAATAT	TTTTCTCTCA	TTGGCCATTT
	AGGTAAAAAG	GTT^TTTACTG	TTTATTACCT	ACTCAATAAA	AATTTTCTTT	TTTTGAGACA	AGGTCTTACT
	CTGTCGCC^TA	GAA^TGGGGG	AAGTGGTGTG	ATCACAACTC	ACTGCAGCTT	CTACCTCCCA	GCTCAACAGT
35	CTTCCCACCT	CAG^CTAGTG	AGTAGCTGTG	ACTACAGGCA	TGTGCCACCA	TACCCCACTA	CTTTTCAATT
	TTTATTTT^T	GTGA^TATGGA	ATCTCACTAT	GTTACCCAGG	CTGGTCTGCT	GATCTCAATT	GATCTC^CCA
	CTGTGGCCTC	CCAA^AATGCT	GGGATTACAG	GCATGAGCCA	CAATATCTGG	CCCCAGTAAG	CTTTTAAAGG
	CATTAACATG	AGG^ACAGTG	TCTTTTACAC	TATTTTATCA	GCTAGGGCTT	TGCATGGAGT	AGGAGTTTAG
	TAAATGCGGT	TGA^TGGGTTA	ATCAATGTGT	GAAATAT^TTC	AGAGCCACCA	AAAACAGATA	TTATGTCTAT
40	TCTCATCAAC	AATCAAAATT	GAGTAAACAG	CAATTTTCTA	ATACAGGAAA	CCACAAAACA	TTGAATGGTG
	ACATTA^AAAA	ATT^CCCCAG	CAGGAGCCAA	CCAATTTTTT	CATCCTGATC	CAAGTTAGCA	AAC^TGCAAAA
	GATAGGAAGC	ACT^ATGAGT	GGAAATTTGA	GTAGAAGCAT	TTCTTATGAA	GGCTGTCTTG	ACTGGATCAC
	ATTTTTATTG	CTG^TGGAGG	TGCCAAATGT	GTGTGTTTAT	GCTAATCCTC	CACCTCAGGC	AACACACAGT
	CAAGGATCCT	ACC^AGTGT^	ACCGTCAAGT	GTCGTGTGGC	AGCTCAAGGC	CCCAGCGTTG	TTCCCTTGCA
45	CTAGGGA^AAA	GACATATTCC	AGGTACAAGT	ACTCCCACT	TGATGCTACA	GAGGAGTTGC	TGAAC^TTGT
	GTCATTAATC	TCT^TTCGTT	AGATCCCAAC	CCTGTTTAAA	TCCC^ACTATC	TGCTACTCT	GGGTCTTCAC
	CAATTTACTA	GATC^ATAGT	GGAGAAAATC	TACAAAGCCT	TGCTCCCTTT	AGATTTAAAC	AGGTCTCCGT
	TTAAATTTAG	AAT^TGCTAAC	TTCAAGCGGG	CCCTTATGCG	ACAGTATGCC	TGTCAGTCAT	ACTACATTTT
	CTCAATTTCCA	TTCA^TGTGAC	TGCTCCATAC	CTTCCCTCT	CTCTCATAC	TACTATTATC	TCTTCCCCC
50	TCCCTCATTT	TTAACTGATG	ATCTTGTTTC	CTATTTCTCT	GAGAAAATAG	AAGCCATCAA	AAGAGAGTTT
	CCACAA^ACTC	CTA^TG^CCTT	ATCTAGCCCT	GTACCATATA	CTTTGCATTT	CCTCTCATT^	CCATGGATGT
	ACTGCCTATC	TGT^CTTCTA	TCTAAGGCTA	ACCC^TCCAC	TTCAGTTT^TG	AATATTATCA	GCTCTTACCA
	ACTCAAGGCC	ATT^GCTCTAG	CAATTCTCTC	ATTCTCTCTC	ATTTTCTTCC	ATCAAGTTT^T	CCTTTTCTTC
	AATTAACAGA	GTAGCTCCTA	AAGGGA^AAAA	AAAGTCTTCT	TTTTCAATGC	TCATCATCAC	TGGCCATCAG
55	AGAAATGCAA	ATCA^AAACCA	CAATGAGATA	TCATCTCACA	CCAGTTAGAA	TGGCAATCAT	TAAAAAGTCA
	GGAAACAACA	GGTGCTGGAG	AGGATGTGGA	GAAATAGGAA	CAC^TTTTACA	CTGTTGGTGG	GACTGTAAAC
	TAGTTCAACC	ATTCTGGGAG	ACAGTGTGGC	GATTCTCTAG	GGATCTAGAA	TTAGAAATAC	CATTTGACC^
	AGCCATCCCA	TTAC^TGGGTA	TATACCCAAA	GGATTATAAA	CAATGCTGCT	ATAAGACAC	ATGCACAGT

TGCAGTGGCA TGA'CTCAGC TCACTGCAAC CTCCACCTCC TGGGTTCAAG CGATTCTCCT GCCTCAGCCT
 CCCGAGTAGC TGGGACTACA GGCATGCCAG ACCATGCCCAG GCTAATTTT TTGTATTTT AGTAGAGACC
 AGGTTTCACC ATGTTGGTCA GGCTGGTCTT GAACTCCTGA CCTCAAATGA TCTGCGCACC TGGACCTCCC
 AAAGTGCTGG GAT'ACAGAC TTGAGCTACT GCGCCGGGCT ATTTTGTGTT TTTAGTAAAG ACGGGGTTTC
 5 ACCATGTTGT CCAC GCTGGT CTCAAACCTC TGACCTCAAG TGATCCGCTC GCCTCAGGCC CTCAAAGTGC
 TGGGATTACA GGA'GTGAGCC ACCATGCCTG GCCATAAAAC TGCCCTTTGT TAATATGACT GTTGGCCTGC
 ACATTGCTAA ATC'AGTGGC ATTCACTTA CTCGGCCAAC CTACGGCATT TGACACTGTC TGTCTTTCTT
 TCTGTTCTCT TATCTGTTTC CAGTATACTG GCTTGGCTTT CTTTTTACCT CTTTTATATG CTCTTCCAGT
 CTCAGGCTCC TTTGGGGATT TGAAGGTATG TTGCATTTTG CTATTCAATG AATAATGACA AGTAATGATC
 10 ACTTAAGACA TTA'GTGGTC AGTTCCTTTA CTAGGATAAA AATAATTTTC TTCCCAACAT GGGGCATATT
 CCATTTCCAG TCT'ACTGTT CTGTGTAATC TTTGTATTCC TTGGCAGCCC CTTTTATATC AGTTCATCTA
 CTGTGCAGGA AAT'GGACAA ACATTTGCAC GAGTATAACC AAATACAGTT GAACCTTTGG CTTGACTCTT
 AGCTGAACTC ACCA'AAAATA ATTTCTGTAA TGGATCAGAG CGTCTACGAG TAGGTTTTTC AGAATTAGTA
 AACATAAATC AAGGATACAC AGGTAGATTT GAATTTTCTA TAAACAACAA ATACTTTTTT AGTATGTCTA
 15 CTGAAATATT TGT'CTCTAT CTGGCAATTC TACCTGGTAC AGAACTAATC CATTCTCTTG AAAGATCTTG
 ACTCTGTAAT AAG'CTCTTG GTGATGGAAG GGAGGTATTT CTGTAATTAG AGTCACTGTC TTCCTCCCAG
 TTTTTATCC TGGC'ACAGAT CTGCAATGAA CACACGCAGG AATCCAGGGG GGATGAAGAT GGGTGCCTTG
 CAGGAAAAAA AAA'TAAAAA CATCTGAAAA AGCTTTTGTA AGTAAAGAAT GTGATCTAAA AAAGAAAACA
 20 GGAGAACTTT CTG'CTGCAC TTTACATCAG AACACCTTG GCGTCTAGAA GCTGTGCCCT GTGGGAAGTG
 GTGGTGCTTG GTAA'GAGATG CCAGGACCAG TGGTACCAC TGGGAGCACT GCCAATACCC AGCAAGGAGC
 ATGGGTGCAC AGT'AGGCAT TGCATGTGA TTCAGCATAA AATAACAATA AGGGAACGTC ACGGAGAAAA
 GGCCAGACTT CCT'GTGTTA GAATGTGGGA AATGCTTCTT GAAAAATGGT AGTAAAAAAG CATGTTGGA
 TGGTCCACTC CAGC'CAAAAC TGAATAATCG GGGGTACAGG ATACAACCCC TGCATCATAT GTTTGTTTCT
 GTTGGGCTGA CAT'AGGTTT ACTGTGACCA CTGTGGTTTA ACCCCATAGT CTCCTGGAAG TACAGCCAGG
 25 TCAAGAGAGC TCC'CATAAA ACATAATCAA AAAAATAAAC TCAAGTTTCC ACTGATCAGC TTTTCACAAC
 TCTTATCCTT TCAC'IAACTT TGGAGCAAGA TTTGAGAATT GGATGGCTAT TTGAGGGCTA TTTCTGCGCT
 TTAGTTCAAT GTT'GTGTTT TTTCTTATTA TTTCTTATTA GAGAACTATG GTTTTTTATT ATATTACAC TTAAGTTCT
 AGGGTACATG TGC'CAACGT GCAGATTTGT TACACAGGTA TAAATGTGCC ATGTTGGTTT GCTGCACCCA
 30 TCAACTCGTC ATTIACATTA GGTATTTCTC CTAATGCTAT CCCTCCCCCA GTCCCCACC CCCCAGACAGG
 CCCTGGTGTG TGA'GTTCCTT CTCTCTGTGT CCAAGTGTTC TGTATTATG ATAGATTACG TTTATTGATT
 TGTGTATGTT GAAC'GAGCCT TGCATCACAG TCACCTGCTT ACAAGAAACA AACACTTCAC AGATGGATCA
 TTATGTGTGA TAA'GTGAAAT CCAAGGATTT ATGCTCAGAG GTGGGCTTAA CAGGTAGGAA GAGCAGTATT
 TTCTTCAAC CAT'AGTGTA TGCAGGTTTT TCTTTTCTTT TTTGAGATGG AGTCTCACTC TTTTACCCAG
 35 GCTGGCGCGC AGT'GTGCGA TCTTGGCTCA CTGTAACCTC TGCCACCTGG GTTCAAGCAA TTCTCCTGCC
 TCAGCCTCCC AAG'GGCTGG GATTACAGGC ACCTGCCACT GTCTCCGGCT AATTTTGTG TTTTAGTAG
 AGATGGGGTT TCAC'CATCTT GGCCAGCCTT GTCTTGAECT CCTGACCTCA TGAATCATCC TTTCTAGCCT
 CCAAAGTGC TGGC'ATTATA GGCATGAGCC ACTGCGCCCA GCCCACAGGT TTTTCAAAGA CTAAGCTTAA
 40 AAAAAAATAA AAA'ATTTCCC AATGAAATAT AAAACTAAAG TGCTAAACTG TGATAGACTG TTTTACAAGA
 ATGCCAGTTT TCACAAGTGT CTATAGAACA TGTAATTTAG ATAGGTAAGA TGAAATTTTG ATAATATTTG
 ATGGCAAATT TAA'ACAGGTA TACAACAAAA ATAAAAATTCT AAGCCCCCTCA ACCAACTGAA TGGACTCCTT
 CTCTCAGCCA AAGC'AATACC AAAGTAAACC GTTTTGGCCA GGATTGGGGG TAGTTGGGGG
 AAGCCCAACA TGA'CTCATTA TTCTCTCTC CCTTTGGAAT TCAGGCACAA CTGAATGTCA GCATTGACAC
 TAAAACACAG ATCTAAGAC TGACAAGCCA GACTCTTTGT AGCAGAGAGC CAGGCCCTGG AAGAAATCAA
 45 GTTATTTTAT CCA'AAAAAT ATTTCTTTGA TATATTTTCA AATGGCCCTG CAAAGCTGTC TCTTGTGGGG
 AAAATTGACA TGT'GTACAG AATTTCTTTC TCTTTCCAAG TTTTACTGA TCCAGGAGAG ATTTAACTAA
 GAGGCTAGCA TGT'TTTTT TTTTCTTCTG TGGCCGAGG TCTTGCTCTG TTGCCCAGG TTGAGTGCAG
 TGGCGTGATC TCAC'CTCACT GCAACCTTCG CCTCCGGGT TCAAGCGATT CTCCTGCCTC AGCTTCCCGA
 GTAGCTGGGA TTAC'AGATCC ATGCCACTAT GCCCAGCTAA TTTTGTATT TTTGTAGAG ACAGGGTTTC
 50 ACCATGTTGG CCAC'GCTAGT ATTGAACTCC TGACCTCGTG ATCCGCCCAC CTCGGCCTCC CAAAGTGCTG
 GCATTACAGG CGT'AGCCAC CGTGCCGAGC ACAAGACATT TACCGTCTAT TCTCTCTGAA GCTACTATCT
 AGAGGCTTCA TCA'ACATAAT AAGACCCTTG GTCTCCACAA CTCCTTATCT TATCCTATTA GTTCTACTG
 ATTCCAGGTC TTTAGATAAT AACAACCTCT TCAAGTATC CCGCCTTCT GCCAATCAGA AAGTCTTTGA ATCCACCTAT
 GACTTAAAAG CCC'ACTCCT CTTCATTCC CCTAAAATGT ATAACATCAA AATGTACACC TTATATGTGT
 55 TGATGGATAT CTG'CTGTAA CTTCAGACTG TGTTCAGAG CACAGGAAAA ATAAAGAAAT GCTGTAAACC AACACCTTG
 GGCACATGTT TAT'GTATAG AGTTTGGCTT TTTTCATTGA CTGAGGTTCA TACAGTTCAG CATATTTGGC TCACAGTAAA
 CTTCTTTAAA TAT'GTATAG AGTTTGGCTT TTTTCATTGA CTGAGGTTCA TACAGTTCAG CATATTTGGC TCACAGTAAA
 TCATCAGTCA CTG'GCCAGC TTCATATCTG ACTGAGGTCA TACAGTTCAG GAAATGCAGA CTTTCTCTCT CTTTGCTACT
 TAGATTGCTA TCC'ATTATCT AGAAGCATCA GGATCACGTT GGACCTATTG GAAATGCAGA CTTTCTCTCT CTTTGCTACT
 60 AGAACCAGG ACC'TGGAAT ATTCTTGGCA CATGTAGGT GCTCAATACA TATTGAACCT CTAGGTGCAA
 TTCATTAAAT CATGAATTAA TGAATTAACA CAGCTCTCAA GTTTAGTGCT TTTTACAGA CTAGTCTTTC
 TGCCTCTTAA GCA'CTCAGCT CACCACGCTT CCAGTCTCAC TCCCCTATTA GTCTGATTAA AATCTGCTTA
 CATGTGAGTC TGAC'ATCAAG TGTATCTCT TCTGAGAAGT CTTCCTCAC TGGCCCAAAG GAATTTCTCC
 TCTATTTTAG CAC'GTCCCA GTTGACTTGT CATTATTCTA GTCTTTTCA TATTAGTTGT TTTTCATATA
 65 TATGTTATTA AGG'AACCTAG TCATTTCCCC TAATAGAACAA AAATTGCTGG CTTTGGGGT TGGCAATGGA
 GGGGAGGCTC TTT'GTAAAA GGGGGAAGAG TGTCTCTCTA ATATTTTCT TACGAGATT TACGATGCTCA
 TCTTTAGCCT TTAGTCCCC ATTGCCTGCC TACAGTTGGC AGAGACCATC GTTTTCTAG CTCTTTGATC
 CTGTCTCAAT TCTT'JAAGTT AAAGAAGCAA GTTTTCTAG CTCTTTGATC AACTTTCAAA
 GTTTTACTTC CATT'GAAAA TTTACTAAGT CACCAGGAGA TGGTTTATAC TGAGAAATAT CCACTCATAC

5 TCTTCCTCTT CAACCTTTCTT CCATATACAC CCTATTACAG GGATATAGTC TTA CTCTATA GCTCAAAAGG
 ATGACCCTAT CAGAAACCTG CACAGTATGT AAAACATTCT CACCAGAGGT TCACTTGTGT ATTTCCACCC
 TAGAATGGAA GCTCTACAAA AGCACAGAAT GTATCATTTT AACTTTAGAT TCTATTTTCA CACCCAGTGC
 TTGACACATG ATTGGAAGTT AATATTTATT TATCAAGTGA TTGTTTTAAA ATCATGACTC ACTCAACAAA
 GTTATAAGAA TAAGAAATAGT GTTACAGAA TGGTATACAC AAGCTGACCA TAATCAACAC ACCTATTATC
 ATTTTTTTGC GACAGGTTCT CGCTGTCTCA CCCTGGCTGG AGTGGAGTGG CATGACCACG GTTCACTGCA
 GGTTTGAAGT TCCAGCTCA AGCAATCCTC CCACCTCAGC CTCCCACATA GCTGAGCCCA CAGGTGTGTG
 CCACCATGTC CAGCTAACTT TTAAATTCTT TGTAGAGACA GGGTCACCCT ATGTTGCCCA AGCTGGTCTT
 GAACTCCTTG GCTAGAGAGA TCCTCCCTCC AAGGTCCCC AAAATGCTGG GATCTCAGGC AAGAGCCACC
 10 ATGCCTGGCC ATAATCAATA CACTTTAAAG AATGCTAGAA TGTATATCA GATGCATACT TCAGCACTAT
 CTCAAGCAAA CTGGGGTGTG GGTTATTTCTA CATATAAAGT TCAGCAGTGT TGTCCACAG TCCCAAACTC
 CAACCTAGGT CAAATGAGG GTGCAGCAAG GTCACTGGGG CTGTCATCAA GGGCCTCTCC TTGCACTCTT
 GCCAACCCCTG TTCTTGATT GTCTCTACCA CCATGAGTCA CCAGCAATCT CCCACAGTCA CTGTGTTAAA
 AGTTCACAAG TATGTGTGA ATTGCAGGCA ACCCCTTGAC TCCCTGATTG CCTGGTCTTC TTCCTTGGGC
 15 TCTACCATTT TTTTCCCA GCACCTTTTC TGCTGCTCTA AATTTTAAAT CATGCAATTC CATATGTGT
 TCTCTATCAT TCTCATCTC TTTCTCTCC CTTCATCCA ATTTTGTGT TCTGTTGTG TGCTTGCTTG
 CTTTAATACA TTCTCTTT TCTGAGAAGG TTTGAGTCCA AAACCTCAG TTACCTGTGT TTCTGTTTCC
 CGTTAGTTAA TCTCCGAACC TTCATAAATT AAATCTGACA AAGTCCCCCTG ACTAACAAAG GAAATGCACA
 AGTCACAGTA AAAGGGGCAC ACACAGAACA CAAATAGACC CAGGGTCTTT TCTGTTTCATC ACTCAGCTTT
 20 TTATAGGAGA TCCAGGAGAA ATGAAGTGA AAGGGAAGTG TGTGAGTTA CTATACAACA CAAGAGTAAA
 CTTTCTTATA AGTGGTAATT TTTTTTACA GGAATAATTG AAAATGGA AA TACCTTCTC TACTCATAGT
 AAGTACTCAG TGCTTCTTG ATGGGATGAG AATGTGTTG AGCTTTAGTG TAAGGCAGAA TTCTGTTAG
 TCTGCCAGTA TTGGAGAAAA ATAAAACACA AAGGGATGA CATGTAGGAA GTGGCACCCTG GTGAGGTTCTC
 AATTCTTCCT ATTA AAAAA TGCCCCAGAG AAATAAAAAAG CTTGTGTACA TGTGAGATG GGAGAGTTCT
 25 CTGGCCCCC TCGCAGGATG TGTGACAGTG GGGTGGCTCT CGCTGCGCC ACCATGAGCT CAAACCCCTC
 ATAGGAGGGG GAGCACACAG GCAGGAAGGT GCAGGAGCTG GCGGAGCTCT TTGGGCTCTG GCCCGTGGT
 ACTGTCTAGA GGTCTGGTCC TGCAACTCCT GAAAGCCCAA GTGGGCATGT GTTACAGTGC ACTCTTTCAG
 CTTTGTCTGTC TGCAGCTTAA GCGTTAACCA GCTCAGTTTC TTCTTGGTAC CCAGGTCCTT GTCTGGCATC
 CAGGAAGAAT CAGGTTACAC ATGGACTTGA AGGATGAATG TGGGAGTTTT ATGGAGTGGT GGAGGTGGCT
 30 CTCAGTGGGA TGGATGGGGA GCTGGAAGGG GGATGGAGTG GGAAGATGAT ATTCTCCTGG AGTTTGGCTG
 TCCAGCAGCC GATCTCCTCT CCAGTCGTCC CCAGCTCTCT GACGTTTCA TGTCTCTCT CTCTCTCTCT
 TCGCCATGCT GTCTTGCGT TCATCTGCT GTCTCTCTT GGAGCCTGGA ATTTGGGGTT TATATGTATC
 ACAATAAGGG GCAATGGCAGG CCAAAAGGGA ACTTTTTAGG TGCAAAAAAC AGGAATGCCT CTCTCACTT
 35 AGGGCTATAG ATTTCAGGC TTGAAGGTGG GGCCTTTACC AGCGAACCTG TATTTCCCTG TCTCCTGTGC
 ATATCAATGT AATCAATAC TGGGCTGATC CAGGATGTTT CTTTAGACCA ATTATGGGTA AAATAATTTA
 CATTCAAGTT TTTATATTG CTTTGTTCAT TTCTTTTTAA GCAATCATGT AAAATATCTA TACGACAGTA
 ATAGATGATA GCGAACCATA TTAATAATTAC CAGAAACTTA AGAATCTCTA ATGATTCTCA CTGTAACATA
 GGTTATTTCT CTTTATGTTG AACAATGTTG GGAGATAAGA CACAAGAGTT TCTGAAGTAT TTCAGAAAACA
 40 CAAAGAGGGA GGTATATATA ATAATATTT TTTCTACTT TGGGAAAATG AAAGCTAGTC ACAAAGTTAA
 ACGAGTGGTT ATTTAATAT TTAATAACA GGCTTGGATG TATTTCTGT TAAAGAAAATG AAAATGCGAGA
 ATATTCAAAA CGTCTGACCA CCCTTCTAAG AACACAGCAA AGCAAAACAGG TCTGAGGTAT TTTTCTTAG
 AAAATCCTG GAGAGCTTG AACACAGCAA ATAGAGAGT TCCTCTGAAG ATTTTAAAA CGCAAAGAGG
 GAAGAAAAGC AAAATCATTAA AAATAGGTCT CATAGAGAGT GGCACAATTT GCTGTGCCAC TGAGCTGACT
 AATGATAATA AAAAGCTGG CATAGAGAGT GGCACAATTT GCTGTGCCAC TGAGCTGACT GGATGTGTTT
 45 TGAATTTCTA GGCAATTAGT TACCTTTCCA CACGCACTCT CCCTTTAAAA AAAATGCCCA CACACTGAAT
 ACTTTTTCTA TGCAATTAA AATAAGCGCA CCATCTAGTT TACAGAAATT CACTAGAAGT TATTTATCCT
 AAAATAGCAG AGAATCTAGAA GAATTTTGAG CTCTAGGACA TTTTAGACAC ACAGAAAAGAA GATATGCGAC
 AAGTCTTGAC CAGCATGAC AGAATAGAAA TTTCTTTTCC TATTTATCTC TTTGAATAAA ATTTTCAGGA
 TCTTACAGTG GAGAGTTTG TTATCTACAC ATTGTGAAGC ACATTGATTT CTCTCTGTA GCCTTAGGAA
 50 GATCTGAGAG GTGCTGAGC TGATTGAATG ATCCGTGACC GCTCTACTGG GACCAGTAGT AGAACTTTAC
 TGGTGGAGAC CTGCTGGAGG TTTGAGAGCA GACTTTGAAA ATTACTAGAG CTACACAGAT ACTGTGTGGC
 TAACTGGATT ATGTTTAGAG GCTTTAGAA CTATGCTGCT GCTGCTGCAG TGTAGCCAGG ACGCACAGAG
 AACATCTAAG GCTCTGAAT GGGGCGATAG GGACAGATTT CAGCAGCCAT CTGACTTCAG TGCTCATTTT
 GATGCTTTCC CTGCAGGGTG CAGTGTGCAG TGTGCAAGTT GCAGTGGTGG GAGGCTCACA CAGGAATACT
 55 TGCTTCTGTA GCCCTAATT CCGGTTCAAA CTCTGCATTC ACCTTGACAG ATTCTTTCTT TGGCCAAAAAT
 TTAGTTAGGC TTCTGGGCTT TCTCTTATGC CCACCTGCAG ACTTTTGGT AAAATCCAGT TTTAGTAAAG
 AGCTCTGCTA AGTCAGTTTA GCAAGAAATCC CCACCTCAAA AGTCACTATC TCCCTCCCTG GTAGTGTCTG
 GCTTGTCTTC AGCGAGAATT CTATTAGGTT CTGTTAGATT AGAATCCTCC TTACCCTTGA TGCTTCTCT
 TAGTATTTT TCACTCACTG ACTCCTTGAC CCACCTTGCT CCTCGGCTAT AAATTCCCAC TTGCCCATAC
 60 TCTGCAAGTA AGACTATT TCCCCACTA CCACTGCAAT CCATTGCCAT GGTCCCTATA CTATCTCAAT
 GGTAATGAAT AAAATCTGCC TTACCATGCT TTAACAAGTA ACATTGAACC ATTTTCTTCT TTAACAATCT
 GCTGCACAA TGAATTTACT AAACCTTATT CCATTTTGCC ATGCTGGATG TCCTCAATGG AATGGCTCTT
 GTGAGCACC AATCATTTGT AGAAGGAAAA CCCATCTCTT ACAGCCCCCT GTAACGTGAT GTATGTTACA
 TGTGATGAT GTTACATAGT TTTTTCAT GTTGATCACT TTTTGCCCAT TTTCTATAT CTTATCAGTT
 65 GGAAGACTGT GGAATGTTGT AGTAAAGAG CTAAGAAGAG TTGAAAGGGC AAGTGGGGCT
 AAAACAGAT TTCTTTGAC TTACCCACAC ATTTCCCCTA TCATGGGGCT GAATCTGCCT GGAGGAAGGA
 GCATCTTTAT CTTTGTACTG TGAACACAC AGTCTAGCAG CAGCACAGCC AAGGCACTTG GGGTTTCATG
 AGACTAAGTA CATCAATTC TATTGTAAAG GCTTAAATA TATACAACCTG ACCCTTGAAC AACATGAATT

004040 " 6 2 9 E 4 5 6 0

65

CATCATTTTC TTCATCTTCC AAAGTGGAGT TAGCTACTAC ATTAGGTAAG GTTACTTCAT CAATCACCAT
 ACTGTTTATAA TCTTGAAAGT GAATTTCTTT GGACCCTCCC TTGAATGCAG TTATACCTAG TATACCTGAT
 CCACAACCAA GATCCAAAGAC TTTTTCCTCA GCAAATTTCA CTTTGGCCTT TGTGAAATAA GCCAGGAGGT
 CAAAGGTACA TTCCAGATT TTTAAGCCTC CCTCATAAAC ACCTGTAATC AGATCAGAGT GAGAAGAAAA
 5 GCTTTTGTGAA ACTATGTTTT CTCCAGGGAA GTTCTCTTTC AACAAGATGG TTTTCACTAC TGATAACTTA
 ACATGCTGGA AACCTGGTAA TGTCTCTATG ACTTTATTTT CTAACATCTT CTTTAAATCT TTAGGCATAG
 CATGCTCTTT GGCAGCTCTC AAGGAGGGCT GTTTTCCATG TGGCTCCAAG TTCCTTGAAC TGCTGGCTGC
 ACTGAGTGGG CTGCTGTGT CTTGAGAGGG AGCTGCATTT TCCATTGACT TATGTTCCCA CAAGTGATCC
 TGAGGCAAGT CAAATTGTTC TGCAGAACAT TTTCTGTCCC TCTCTTCTCC TTTTGTACTT TCTGAGACTG
 10 ACAGCTCTTT TGACGAATCC AGGGTCAAAG CTCCATCTCT AATGGGTGTT AATTCATTTT CCAGATGGTC
 TTCTATAGTG AAAATAAACT GAAAGGTCAT CCTCTTATTA AATGCACACA ATCTTTAAAT TCAGATTCTT
 CAACCTTTTG ATAGAAATG ATGATACACA CAAATCTGCC TCAATTATTC AATTAGTTTT GTTGGGCCCA
 ATTTCTCTTT AGCAGCTTAT ACATGGTAAC AAAATTTTAG AGATATTTCC AAATGACTTT TTAGACGTCT
 TTGGTCTCTT TTCCAGCAG CTCTGGAAAG AAAAAAAAAA AAAAAAGAAA GAAAATGATG ATTAAGCAA
 15 AATGGCACAT TTCACTAAAG TGTAATATTA AACAGCCACC CCCACCCCTC CCTGTCCCAC CATACAGCTG
 CTTTCTCTTA AAAATTTGTG GGAAGAGAG AGAGATAAGA GATTTGGACA CTCATACACA CCTTAAGGGT
 TCCAAAGTGG GAGAGAAAA TCAACTATAA AAACAACAG AAGAACAACA GCAACCACCA CCACTACCAC
 CTGGACAAAC ATAAAGTCCA AGATATTAG ACAGGACAGC CTAGCTACTT GCTGTCTTTC AGCTGTCTTG
 ATTTGTGTCC AACCATATTC ACCCCCTAAG CTTCCAGAAT AACTTCACTT CTGTCTTTTA CAGAAGAGGT
 20 GCAGTATTTT ATTTGGTAA GTCAGCGTCC CTTTAAAAAC ATGCATAGGT ATGGCCTGGT GTGTGTAAT
 TCATCCAAGA CTTCACTCCA AACATTTAGT CGAGAACAGC AGCCCTAAGT GTATAGAAGT GGGGGTAATT
 TGGCAATAAT TAGTAAAGAC TAATTCGGTG GAGAGCAAA CGCAAAGTAC GGCAGTGCAG TAGTTTGGAG
 AGACCTGTAG AAAAAGAAG CAACTTTATT GAGAATCTTC TATCTACTGC GCTAGACACT ATACCCTCG
 25 CCTCAATTTT CACAGTCTG GCAAGTGGGA TCTTTGTTC CTTTATACAA GATTTACAAT TTGGGGGAGA
 GGCGGGTCAC CCACTCCCGC GGCTAGGAAC GCGCCTCTTT CCTCTCCCAT CACGCTGCAA GGCTTGAAGT
 CACTTCCGGC TGCAAGGTCCC GGAACAAATC CGACCCAGA AGTGGGGACT TCTGGCCCTC ACCTCCCCAT
 TTGAATGTAA TGTITACAGT GATCCAGACC TGGGAGTGCT TGGTCTCCGA CGTGTCTGG AGCTGCTCTT
 CTGAAAAAGC TCACCTCACA ACGCTCCTC CGGACCTAAA TCGCGCACCA GTGAGTCGAG TCCTCCAGGG
 30 GCTAGAGAAG CCCGACTTTC TTTCCGGCCT TGAGGGACCC GGGCTACCA AGAAACCAGC CGCCCTCCTC
 TCTATGTTT TGGAAGCTC TCTGTGTTGA TAGCTGGCCA GAGGAGTAGT TCTACCTAGA GAAGGGTGTG
 GCGGGTCTGG TTTGAAGCTC AAGATTAAG TAGCTGGCCA GAGGAGTAGT TCTACCTAGA GAAGGGTGTG
 GTTCCCCTGG AAGATTAAG TAGCTGGCCA GAGGAGTAGT TCTACCTAGA GAAGGGTGTG
 35 GACTCCTCAT ATCCTTCTT TCCAGACCCA CCGCCAGGCT GGGTTATATT ACCGCGGCCT GAACCCCTC
 CTTCTGTCCC TTCAGACCCA GAGGGACTGG AGGGGAAGCG ACAACCGTGG TAGATTAAAG TAAGGCTTTG
 CAGTGAGTGG GATCAAAAGT CGTGTCTGA CCAAGGTTT TAGCAGTGA TGTGGCGTT TCTTCCATT
 GCTTGGAAA GCCCGCGGA CTGTTGCTT GCAATTAAGT GTAAATACTT TTGCTAGTGG ATAAATGGGG
 40 CTTCTTTCAG TTTTCTGTA TGGTATGACGA TAGCTCTGGC TCTTAATAGT TTGAGGTAAA GCGAGATACT
 AGGCAAGGAC TGAGACCTGC AAAAGGGTGG TGAATATGAA TAAGGGCTTT CTTAGCGTTA TAAGAATTAA
 CTGAGCTTTT GTCTCCGTA GAAATCTTTA AAAGATGTTT AGTAAATAAA AATGATTTTC CTCCTTCCCC
 AGGGCATAGT TCTGTGGTGT TTTCTTCTC TTTTGTGAC AAGTCTCAC TCCTCTCACC CAGGCTGGAG
 45 TCTCAGACTT TTTTCTTCT CGCTTGTGT TGGCTTTCAA CTGTTGGATT TGAGCGCTT AGCGCCTCT
 TCTTCTGAA AGACTTCTTC CTTGATTGGT CTCATGCCTT TGTGGTTGTA AATGTGCCTG GAATCCTAGC
 TCGTCCGGGT GCACACATT TATATGTATC TTTTTCACAA CATTTGAGCC CAGCTTTATA CAATTACACT
 CTTTCATGGT AAACCATATG TCACCTGAGA GAATCTCAAT ACTGCACAAA TATGTGTCAG CTAAAGCCCT
 50 CAAAAGAAAA AAAATAACCT TACACAGTCA ATCTCAGAAG ATCTCAGAAG GTGCCAAAGC CCCCCTTTT
 ATGTAATGAC ATACAGTCA TAGGTACAGA ACTGCCGTCT TCAAGGAGT TCAACTGAA AACAAATAGC CACCTCAAAA
 AGTTTTGTG ACATTTAAAC TGCGTGATA ATGTGTGTGA GACATGGTGT TAGGCTTTGG GAGAACAGAG
 ACACGGAACG TGA'TCCTCT TCTTCCCCAC AAGCTTATAG AGAGACTTCA TTAAGTTGAA AGTCAACATT
 55 CCCACCTAGC TTTGCACTTC AAACGACATA TTCAAAAAAG CCAAACTTC CTCTAGTTT CTTCATCTGA
 GTAAATGGT TCACAAACTG AAACCTTGAA TCCCTCTGT CTCACACACC CGATCAGTAA GTTCTATTGT
 TTCTGATTCC AAACATATG TGAATCAAT CCGTTTATCT CCATCCTCAT TGCTACCACT CTGATTCCAA
 ACCCTTATCA CCTCTCACT GGAGTATTA TAGTTTCTCT GTTTCTACTC ATAATTCATT ATTCCAAAAA
 60 AGTTAAGAGG GGAATAACAT AGATCTCGTC ATTTCCCTTT TTAACCCTT TACACTCTGT TTACCTTCAA GGTTCCAGGT
 GATCTAAGCC TTGCCTTCT CTCATACCTA GTTAATTAAC GTTAATTAAC TACACTCTGT TTACCTTCAA GGTTCCAGGT
 CCTACCTCAA GATCTTTTGT CTCAGCCTGA TTTGTTCTCT TACTGTTCTT CAGCCTTTTG CATATTTTCT GTTTATGTCT
 TGGCCCAAAT GTCACTTCT TAGAGGGGCT TTTTCAGAGC CTTCAATCTT AGGCAGTTCC CCAAAACGCA
 GTCTTACACT TGTATCACAT TGGCCTGTT AGITTTCTAA AAAGCACATT ACCATTAAAA GAAATGCTCT
 65 TGTTTGCTTT GTATATTTTC CACTTCTACA CATTATGTTG CAAAGTTCAT AAAGGCAGGA TGTTGATTTT
 CTTACAGCGC TTACCCTAG CACCTGAAG AGTGCTGAC CATGCTTAA AATACTTTTT TAGGCTTTAA AGGGCTAAAA
 ATATTTTCATG TTTTAAAAAT ACTTGGGAGT CTAATTAGAC TCTACAATGC TTAGCTTTT TGGTAGTATT
 TTAGCTTCAC TATTITAAAC AATGAAAAAT TTGCAATAAA TCTACAATGC CATTACCCCC CAAAATCTTT
 TTCATGTTTT GCATTTACG TATTATTTT CAGGCCTTAC CTGCATGTCT GCATAATCAT AACTGACTAA
 TTTTGAACA GCTGTAATT ATTTGAGCTT TACTGAAATT TTTTCATGAG GCCAATTCTA CCCTACTGAA
 70 CTTCAAAATTG AACTTAATGAT GACCTCATTT TGATTGTGCT GTTAAAAAT TGTAATAATG AAGATTTTCG AAGAGGAATG
 AATTCTGTGA TTACTGTGGT AGGACTATGG GTTTTTTTT GTTTGTTGT GTTAAAAAT TGTAATAATG AAGATTTTCG AAGAGGAATG
 ACCCTGTAC CCAGGCTGGA GTGCAGTGGT GCGATCTCAG CTCACAGCAG CACCATGCCC GGCTAATTTT TGTATCTTT
 TTCCTCAGCC TCCGAGTAG CTGAGATTAC AGGCACGTGC CACCATGCCC GGCTAATTTT TGTATCTTT

00403679 040400
 00403679 040400

	AGTAGAGATG CCTCCCAAAG ATTCTTTGAT ATGGTGTATA AAGTTGGTAA AAGTACAATA TGGTGTGCAT GGCTGCAGTG TTTTTTTTGA CTCCAGTTT CCCAGCTAAT CTGACCTCT CCCAGCGGAG GTTTCTCATC TTCAAAATAT ATTAAGCCAG TTTTTTTTTA TACTACTTGT TGTACTTTGA TGAAATGTAA AATTCCAGCA ATAAAACAA CTGAATAGCT TTGTCTAGGT TACTTGATGA GCTTTTCTAT ACCTAAATTT ATCTTTGCTC GGATTACAGG TGGCCAGGCT TACAGGCGTG ATTGCCAGG CTCCTGCCCT TGTTTGTTTT TCACTGCAGC GGTGGTGTCT ATGTTTCCCA ATTACAGGCG AAGTGATTCA CTGAAATGGT ATTCTTCGTA TGAACATTTT TATTTAACTG CTACTTAATA TTGCATTTAA TTTACAGAAA CTTTCTTTTC CTCAGTCTTA AATAAGGAGT TTACAGGCTG TGAGGTCAGG TTAGCTGGAC GCCTGGGAGG GCTCCGTCTC TGAATTTAAA GACAGAGTGA TAACAAAGAG CTGAAAGACA ACATTATTTG TTCTTGTA AAAAAGATTC TCTTTAGCTA AGATCCAAGT TATACCCTTA TGAATAGGCG TCAAGACAGT GTGATTTTTT GGGGCTTTTG	GTTTACCACAT TGCTGGGACT GATICTTATG TGAAGAATTT GATAGGTATG GAAATGTTGA CTCTAATCCC AGGTGTGATC GACGGAGTCT CAAC TGATT TATTTGTAT GTTCCGCCAT ACCTCTCTCT TGTCAAAAAT TTCITTAATG TAA TTGAGT GGTTTGTCT CTCAACATTC TGTTAAGGTC CTG TCTCTA CTTA AAAAGTT TGTAATATCT ATCA GCCTCT GATAACAAAT GATTCATTCT TTAGAGTTCA TTTTTCTTT ACTGCAACCT CATGCTTCAC GGTCTCAAAA AGCTGCTGAG CTGTCAGAGCA CATCTTCTAA GGGGGACAGG CTCCATCTCC ACCATCGGTG GGTCTCTTT TGAGCCACCA TGTTTATTGT TAAGATTTTG CATCTTATC TCATGTTTTA GTCCACAAAT GTTTCTCTGT TAA GGGGAC TTTTGAAAAT ACAAATGTGA GATCATTTAT AAGT AGATCT GGCA CGGTGG AGTTCGAGAC ATGC TGGCAG CGGAGGTTGC AAATAGTTAA TTATTTGTAG AACCCTTAAT AAAACATTA CAAGCATACC TAATTAATCT CATAGTCACT AAC TGTTACA CATGTATTG ATTAGATCT ATTCAGGAAG ATTACAGTGA CAAAATTTAT AAAAAATTG GGGGGATTAT	GTTGGCCAGG ACAGGCGTGA GTGTTGTTAC ATTGTCGTGT TAAGTAATAT GGAAAGAAAA AGCTCCTTGA ATGTCACCGC CGCCTATGCT TCCTGCCTCA TTTAAGTAGA CTAGGTCTCC TAAAAAAAAA ATTTCAATGAC TGTTTTTACA CCAATTCCAA GAGTAATGAA TGACAGTTGG CGAGTCCCCA TGTTACAGCC TTAAATTACA AAACGTTAGT AACATGTTTA TTACCATTGT TCTAGTCAGA CTTGTTTGTG TTTTTTGTG CCACCTTCCA CACGCCTGGC CTCCTGAGCT CCTGGCCCCA GTAGTCGAT AGTGCTGTGA GTCTTGCTTT CACGCTCAAG GCTAATTTTC AACTCTGGG TGCGTGGCAT GGAAAAATAG ATGAGAACAG TACATTAATA AAATGTCATT GTGGGATATG ATAGAAATGT TGGCCTTTGT TATTGTAGAA CCAAAGGTAT TATTAATTAT CATGTGAGAC CTCATGCCCTG CACCCATGGT GTGCCGTGTA ATTGAGTCAA AAAAAAATTA TCAATTTTAA TCAAAAAAAA ATTCACAGAA TTTTTGTGTT CTTATTGAAA TGATGATTCT TAGATGAAAA TTGACTGTGT AGGGTGCTTA GTTAGCTTGA AATTCCTTCC GTGCGAAAGT ATGCTATTA GTGTAAAAA TACCTTTTCT	CTGGTCTCGA GCCACCGTGC AGTAAACAT ATTTGAAAGC GAAAAAAGAT ATTTCTTGTA GAGGCTGGTA ACTCCATCCT GGAGTGAAT GCCTCCTGAG GACGGGTTCT CAAAGTGCTG TAAATAATA TATGCATAGT ATACTGTTTA TCTCTTATGA TACCCTATTA ATTGAGCATA CATACCTCGG TTTATAACCT TTTTGGATAA TGTTACGATT GTGTCATTTA GAGGAAGTTG AGAGAGTTTA GAATATTTCAT GAGTCTCGTT GGTTCAGGTT TAATTTTTGT CAAGTGATCC GAGTTTGTGTT CATAGCTCAC TTACAGGTCT GTCACCAAAA CAATCCTCTC TATTTATATA CTCAGACAGT AATTTTTTTT AAACATATAG TCTCATCTCA TTGGTGTATT TTAATGATGG TAGGTCGTTT GTATTTTGAA TGACTGACAT ATGTTTTTAC AATACTATTA GGCTCTCTTT TATAATGGTG TAATCCCAGT CAACATGATG TCCCAGCTAC GATCGTGCCA AAGCAACTAT ATGCTCTTGT AAAAAAATTA TACATTTATTA TAAATGGAGG TGGGTTTCTA CTATCTGAAA TGGATGTTGA TGCTATTTCT ACTTTTCACA ATTGGGTCAA AGAAAATACC AATACTTTAA ATAGATTCAA TACCTTTTCT	ACTCCTGACC CCGGCCGGGT TTCTAACAA TGCTATGTGC AGAAGGTGAT ATAGAAATCG TGGGAGGATC GGGTGACAGC GGCGCATCT CAGCTGGGAT CACCATACTG GGATTACAGG AATCATAAAC TTGAAAAGGC CCTAATAAAT GTCATTGCTT CTATGATACT TTGTAAGTA TAGATTGTGTT TCAGTTACTT ATACCAAAGT AGACCTATAT GAAAAATGCTT ACTTTCTCAT GACTGCTCAG TTATAATTTG TTGTCACCCA ATTTCTCTGC ATTTTTAGTA TCCTGCGTTG TGTTTTGTGTT TGACGCTGTA GAGCCATGAT CTGGAGTGTA ACCTCAGCCT TTTATTTTTT CCTCCCGCTC AAGTAAATTA AAAAACAGAA TTTCCGTATA ATTTTGGAAA CAGATCCTAT CCTTTCTCTC AGTGTATCAA GACAATATTT CTCATATGAA CCTGAAAATA TTCTAATATA TTAGTGTGAT TCTCTGAGAG AAACCTCGTC TTGGGAGACT TTGCACTCCA ATTTTCAGAT ATTTTAAAGC AAGAAAAGCT CATTTTAGAT GAATTAAGTA TATATTTAGT TCTTTTGGTA TGAATCGTAA AATTTGTTCT GCCTATGGGA GGTCATTTAA TTGTTTGTAA GTTAGAAAAT ACTGTATGAA CTCTAAAAACA TGGAAAAATA TGCTTAATTA TGCTTAATTA TGCTTAATTA	CTCGCTCAG TCTTATTAAC ATTATTTCTG CAGTCAATA GGTATAAAT CTGGGCATGG AGGAGCTTGA CTCTTTTTTT CAACCTCTGC CGCCACCATG TCTTCAACTG CCCCATTTGG TTGTAGCAT CTGGGCAATT TAAAAGCAAA AGGGTTTTAT TTAATTATCC AAGTGTATGA TGATTTCCCT AATTCATTCA TGATGTATGT ATGCAGTCTA CAAAAGCTGA TCATCAGTCT TTTTGAGTTA GTGTAATGGG CAGTGGCGTG CAAGTAGCTG TTCACCATGT GTGCTGGGAT ATCTCACTCT TCAAGCTATT TGTTTTGTGTT CATAGCTAGC TGAGACCGCA AGGCTTTGTC AAGTGTGGGG TTGAGTATAG AACATCTAAT CCATACCATC AAGTACATTG TACACACACC TTTTTGGCTA GGTAGTATTC TGTTAATTGC TTGGAACAGA GGAATCTAGC TCAAAAATAA TCAAAAACCTG GCAGATCATC GTACAAAAAA AATTGCTTGA TAAGAGCGAT CTTACTAAC CAGCCTGGGT CAAAATCAAG TATGTTTTCT CCAAAATGAA TCTTTCAAAT TGACCACCAG AACAGTATTT ATTGTTAGAA GGTCATTTAC AAGTAGAGT TGTTGGATTCT TGAAGCTTGA ATTTCTGTTT GGTACAATTT GGTACAATTT
--	--	--	---	--	---	---

[illegible]

[illegible]

CACACCTTCT TTGTIGGCAT TAAGATGCAA ACTTTGTTTT AAACAGTTGA GTAAATCAAA GATGGGACTG
 TTAAGTTATT TGTGTTATTT ACCTGCTTTT TGAAAAATGTA AAAATAAAAC TCTAGGTTTA ATTAGTAGTA
 TGCTATTTAG TAATGAAGTA AAGCTAGAGG CTTCGAACAA ATCTTGTTGA ATTTCTCTT GAATGAGAGA
 5 GAAAATTTAA AGTAAGCAAA CAAATAAGTT GTGTGTCACC ACTCATTGAG TCATTAAACA AGTATTTCCA
 GAGTACTTAT TCTGTGCCAG GAAATGTTGT AGGTGCCCTC AACAACCTAG AGTCTAGCCT GAGACACAAG
 TAAGTAGGTA ATTAATTATAG AATGGTATGA TCTTTGGAGG ACTGGGTATT GGCTGGCTCA TGGGAGTACA
 AGATAGGTAC CCAATGATGA AGTCAGGAAA GGTTCCTTAT GGTGATATGA TGACGTCTAT GCTGATTATA
 AGGTCAAGTGT AGAATAAACT TTGTGCTTTT AAATTGCGAT AGCACTGTAT TAGAGAGTTC ATCTTCAAAA
 10 TAATCGAAAA GGCAGAGTGT GGTGACCCAT GGCTGTAATC CCAGCACTTT GGGAGGCCGA GGTGGGCAGA
 TTGCTTGAGC TAGGAGTTCC AGACCAGGCT GGCCAACATG GTGAAACCCC GTCTCTACTA AAAATACAAA
 AATTAGCCAG GAGTATGAGT GCGCACCTGT AATGCCAGCT ACTTGGGAGG CTGAGGCAGG AGGATCACTT
 GAACCCAGGA GGTGAGGTT GAAGTAAGCC GAGGTGATGC CACTGCATC CAGCCTGGGC AACAGAGTGA
 GACTCCATCT CAAATAAAAA AAAAATGATC AAAGAAAGGT GAATTTTCAT CTACCCTATT TCTGCTGAGG
 15 AAAATGGACT ATTTTCAAAT ATTTTAAATA AGGGTCAAAA TGAGGGATC-3' (FRAG.NO:)(SEQ.ID NO:2480)
 5'-CCTGAGACAG AGTCAGCAGT GATACCCACC TGAGAGATCC TGTGTTGAA CAACTGCTTC CCAAAACGGA
 AAGTATTTCA AGCTTAAACC TTTGGGTGAA AAGAACTCTT GAAGTCATGA TTGCTTCACA GTTCTCTCA
 GCTCTCACTT TGGTGTCTCT CATTAAAGAG AGTGGAGCCT GGTCTTACAA CACCTCCACG GAAGCTATGA
 CTTATGATGA GGCCAGTGCT TATTGTCAGC AAAGGTACAC ACACCTGGTT GCAATTCAAA ACAAGAAGA
 20 GATTGAGTAC CTAATACTCCA TATTGAGCTA TTCACCAAGT TATTACTGGA TTGGAATCAG AAAAGTCAAC
 AATGTGTGGG TCTGGGTAGG AACCACAGAAA CCTCTGACAG AAGAAGCCAA GAACTGGGCT CCAGGTGAAC
 CCAACAATAG GCAATAAGAT GAGGACTGCG TGGAGATCTA CATCAAGAGA GAAAAAGATG TGGGCATGTG
 GAATGATGAG AGGTGCAGCA AGAAGAAGCT TGCCCTATGC TACACAGCTG CCTGTACCAA TACATCCTGC
 AGTGGCCACG GTGATATGTG AGAGACCATC AATAATTACA CTGCAAGTG TGACCCTGGC TTCAGTGGAC
 25 TCAAGTGTGA GCAATAATTGTG AACTGTACAG CCCTGGAATC CCCTGAGCAT GGAAGCCTGG TTTGCAGTCA
 CCCACTGGGA AACCTCAGCT ACAATTCTTC CTGCTCTATC AGCTGTGATA GGGGTACCT GCCAAGCAGC
 ATGGAGACCA TGCATGTGAT GTCCTCTGGA GAATGGAGTG CTCCTATTCC AGCCTGCAAT GTGGTTGAGT
 GTGATGCTGT GACAATCCA GCCAATGGGT TCGTGGAATG TTTCCAAAAC CCTGGAAGCT TCCCATGGAA
 CACAACCTGT ACATTTGACT GTGAAGAAGG ATTTGAACTA ATGGGAGCCC AGAGCCTTCA GTGTACCTCA
 30 TCTGGGAATT GGGACAACGA GAAGCCAACG TGTAAGCTG TGACATGCAG GGCCGTCCGC CAGCCTCAGA
 ATGGCTCTGT GAGCTGCAGC CATTCCCTCG CTGGAGAGTT CACCTTCAAA TCATCCTGCA ACTTCACCTG
 TGAGGAAGGC TTCATGTTGC AGGGACCAGC CCAGTTTGAA TGCACCACTC AAGGGCAGTG GACACAGCAA
 ATCCCAGTTT GTGAAGCTTT CCAGTGCACA GCCTTGTTCCA ACCCCGAGCG AGGCTACATG AATTGTCTTC
 CTAGTGGTTT TGGCAGTTTC CGTTATGGGT CCAGCTGTGA GTTCTCCTGT GAGCAGGGT TTGTGTTGAA
 35 GGGATCCAAA AGGCTTCAAT GTGGCCCCAC AGGGGAGTGG GACAACGAGA GACCCACATG TGAAGCTGTG
 AGATGCGATG CTGTCCACCA GCCCCGGAAG GGTGTTGGTGA GGTGTGCTCA TTCCCTATT TGAGAAATTCA
 CCTACAAGTC CTCTGTGCC TTCAGCTGTG AGGAGGGATT TGAATTATAT GGATCAACTC AACTTGAGTG
 CACATCTCAG GGAC AATGGA CAGAAGAGGT TCCTTCCTGC CAAGTGGTAA AATGTTCAAG CCTGGCAGTT
 CCGGGAAGA TCAATCATGAG CTGCAGTGGG GAGCCCGTGT TTGGCACTGT GTGCAAGTTC GCCTGTCTG
 40 AAGGATGGAC GCTCAATGGC TCTGCAGCTC GGACATGTGG AGCCACAGGA CACTGGTCTG GCCTGTCTACC
 TACCTGTGAA GCTCCACTG AGTCCAACAT TCCCTTGGTA GCTGGACTTT CTGCTGCTG ACTCTCCCTC
 CTGACATTAG CACCATTTCT CCTCTGGCTT CGGAAATGCT TACGGAAAGC AAAGAAATTT GTTCTTGCCA
 GCAGCTGCCA AAGCTTTGAA TCAGACGGAA CGTACCAAAA GCCTTCTTAC ATCCTTTAAG TTCAAAGAA
 TCAGAAACAG GTGCATCTGG GGAAGTAGAG GGATACACTG AAGTTAACAG AGACAGATAA CTCTCTCGG
 45 GTCTCTGGCC CTTCITGCCT ACTATGCCAG ATGCCCTTAT GGCTGAAACC GCAACACCCA TCACCACTTC
 AATAGATCAA AGTCCAGCAG GCAAGGACGG CCTTCAACTG AAAAGACTCA GTGTTCCCTT TCCTACTCTC
 AGGATCAAGA AAGTGTGGC TAATGAAGGG AAAGGATATT TTCTTCCAAG CAAAGGTGAA GAGACCAAGA
 CTCTGAAATC TCAGAATTCC TTTTCTAACT CTCCTTGCT CGCTGTAATA TCTTGGCACA GAAACACAAT
 ATTTTGTGGC TTTCITTTCT TTGCCCTTCA CAGTGTTCG ACAGCTGATT ACACAGTTGC TGTCTAAGA
 50 ATGAATAATA ATTAATCCAG GTTTAGAGGA AAAAAATGAC TAAAAATATT ATAACTTAAA AAAATGACAG
 ATGTTGAATG CCCACAGGCA AATGCATGGA GGGTTGTTAA TGGTGCAAAT CCTACTGAAT GCTCTGTGCG
 AGGGTTACTA TGCACAATTT AATCACTTTC ATCCCTATGG GATTCAAGTC TTCTTAAAGA GTTCTTAAAG
 ATTGTGATAT TTTTACTTGC ATTGAATATA TTATAATCTT CCATACTTCT TCATTCAATA CAAGTGTGGT
 AGGGACTTAA AAAAATTGTA AATGCTGTCA ACTATGATAT GGTAAAAAGTT ACTTATTCTA GATTACCCCC
 55 TCATTGTTTA TTAAATAAAT ATGTTACATC TGTTTTAAAT TTATTTCAAA AAGGGAAACT ATTGTCCCTT
 AGCAAGGCAT GATGTTAACC AGAATAAAGT TCTGAGTGT TTTACTACAG TTGTTTTTTG AAAACATGGT
 AGAATTGGAG AGTAATAAAT GAATGGAAGG TTTGTATATT GTCAGATATT TTTTCAGAAA TATGTGGTTT
 CCACGATGAA AAATTTCCAT GAGGCCAAAC GTTTTGAAC TAAATAAGCA TAAATGCAAA CACACAAGAG
 TATAATTTTA TGAAATGCTT GTTTGGAAAA GAATACAGAA AGATGGATGT GCTTTGCATT CCTACAAAGA
 60 TGTGTTGTCAG ATGTATATG TAAACATAAT TCTGTATAT TATGGAAGAT TTAAATTCA CAATAGAAAC
 TCACCATGTA AAACAGTCAT CTGGTAGATT TTTAACGAAT GAAGATGTCT AATAGTTATT CCCTATTTGT
 TTTCTTCTGT ATGTAGGGT GCTCTGGAAG AGAGGAATGC CTGTGTGAGC AAGCATTAT GTTTATTTAT
 AAGCAGATTT AACATTTCCA AAGGAATCTC CAGTTTTCAG TTGATCACTG GCAATGAAAA ATTCTCAGTC
 AGTAATTGCC AAACCTGCTC TAGCCTTGAG GAGTGTGAGA ATCAAAACTC TCCTACACTT CCATTAACCT

004040 " 6 2 9 6 4 5 6 0
 004040 " 6 2 9 6 4 5 6 0

AGCATGTGTT GAAAAAAAAA GTTTCAGAGA AGTTCTGGCT GAACACTGGC AACGACAAAG CCAACAGTCA
AAACAGAGAT GTGATAAGGA TCAGAACAGC AGAGGTTCTT TTAAGGGGGC AGAAAAACTC TGGGAAATAA
GAGAGAACAA CTACTGTGAT CAGGCTATGT ATGGAATACA GTGTTATTTT CTTTGAAATT GTTTAAGTGT
TGTAATATT TATGTAAACT GCATTAGAAA TTAGCTGTGT GAAATACCAG TGTGGTTTGT GTTTGAGTTT
TATTGAGAAT TTTAATAAT AACTTAAAT ATTTATAAT TTTTAAAGTA TATATTATT TAAGCTTATG
TCAGACCTAT TTGACATAAC ACTATAAAGG TTGACAATAA ATGTGCTTAT GTTT-3' (FRAG.NO.:)(SEQ.ID NO:2479)

5'-CCT TGC CTG CTG G-3' (FRAG. NO: 1739) (SEQ. ID NO: 1752)

5'-GTT GTC CC-3' (FRAG. NO: 1740) (SEQ. ID NO:1753)

5'-GTT CTT GGC TTC 'TC TGT C-3' (FRAG. NO:1080) (SEQ. ID NO:1088)

10 5'-GGC TGG TGG-3' (F RAG. NO:1083) (SEQ. ID NO:1092)

5'-CGT TGG CTT CTC GTT GTC CC-3' (FRAG. NO:1081) (SEQ. ID NO:1089)

5'-TGT GGG CTT CTC GTT GTC CC-3' (FRAG. NO:1082) (SEQ. ID NO:1090)

5'-CCC TTC GGG GGC TGG TGG-3' (FRAG. NO:1083) (SEQ. ID NO:1091)

5'-GGC CGT CCT TGC CTG CTG G-3' (FRAG. NO:1084) (SEQ. ID NO:1093)

15 Human P Selectin Fragments

5'-TTT TCT CTT TCG CTT TCT TTT CGT CTC CTG TTC CTC CTT TT TTG CTG TTT TTT CTC CTT CTT CTC TCC
TTT CTT TTC-3' (FR4.G. NO: 1741) (SEQ. ID NO: 1754)

5'-TCC TTT CTT TTC-3' (FRAG. NO: 1742) (SEQ. ID NO: 1755)]

5'-CTC CTT TT-3' (FRAG. NO:1743) (SEQ. ID NO:1756)

20 5'-TTT TCT CTT TCG (TT TCT TTT CGT CTC CTG TTC CTC CTT TT-3'(FRAG.NO:1085)(SEQ. ID NO:1094)

5'-TTG CTG TTT TTT (TC CTT CTT CTC TCC TTT CTT TTC-3' (FRAG. NO:1086) (SEQ. ID NO:1095)

Human Endothelial Monocyte Activating Factor

Nucleic Acid & Antisense Oligonucleotide Fragments

5'-TTT TCT CTT TCG CTT TCT TTT CGT CTC CTG TTC CTC CTT TT TTG CTG TTT TTT CTC CTT CTT CTC TCC
TTT CTT TTC-3' (FRA_G. NO: 1744) (SEQ. ID NO: 1757)

5' -CC TTT CTT TTC (FRAG. NO: 1745) (SEQ. ID NO: 1758)

5'-CTG TTC CTC CTT 'T-3' (FRAG. NO:1746) (SEQ. ID NO:1759)

5'-TTT TCT CTT TCG (TT TCT TTT CGT CTC CTG TTC CTC CTT TT-3'(FRAG.NO:1087)(SEQ. ID NO:1096)

5'-TTG CTG TTT TTT CTC CTT CTT CTC TCC TTT CTT TTC-3' (FRAG. NO:1088) (SEQ. ID NO:1097)

30 **Human IL3* Nucle c Acid and Antisense Oligonucleotide Fragments**

5'-CTC TGT CTT GTT CTG GTC CTT CGT GGG GCT CTG TGT CGC GTG G GTG CGG CCG TGG CC GGC GGB CCB
GGB GTT GGB GCB GCB GCB GGB CGG GCB GGC GGC TCB TGT TTG GBT CGG CBG GBG GCB CTC (FRAG. NO:
1747) (SEQ. ID NO: 1750)]

5'-G GBG GCB CTC-3' (FRAG. NO: 1748) (SEQ. ID NO: 1761)

35 5'-GT GGG GCT CTG-3 (FRAG. NO:1749) (SEQ. ID NO:1762)

HUMIL3AAS1: 5'-CTC TGT CTT GTT CTG GTC CTT CGT GGG GCT CTG-3' (FRAG.NO:1089)(SEQ.ID NO:1098)

HUMIL3AAS2: 5'-TGT CGC GTG G GTG CGG CCG TGG CC-3' (FRAG. NO:1090) (SEQ. ID NO:1099)

GGC GGB CCB GGB G⁺T GGB GCB GGB GCB GGB CGG GCB GGC GGC TCB TGT TTG GBT CGG CBG GBG GCB CTC
(FRAG. NO:1091) (SEQ. ID NO:1100)

40 Human IL3 Receptor Nucleic Acid and Antisense Oligonucleotide Fragments

5'-TCT GGG GTG TCC TGG CCT TCG TGG TTC CTC TTC CTT CGT TTG CCG TCC GCG GGG GCC CCC GGG CCT
GGC TGC GCT CCT GCC CCG CCT CTT TCC CGG GCT CTT GCG CTG GGG GGT GCT CC CGT GTG TTT GCG CCC
TC CTC CTG GTC GCG CTT GTC GTT TTG GGG CCG GCT TTG CCC GCC TCC CGG CGC CTG GCC CGG CC TTC
CTG GGC TGC GTG CCG GTT CTG TTC TTC TTC CTG GCT CTG GGG TGT CCT GGC CTT CGT GGT TCC TCT TCC

45 TTC GTT TGC CGT CCG CGG GGG CCC CCG GGC CT GGC TGC GCT CCT GCC CGC CCT CTT TCC CGG GGC CTT
GCG CTG GGG GGT GCT CCC GTG TGT TTG CGC CCT CCT CCT GGT CGC GCT TGT CGT TTT GG GGC CGG CTT

TGC CCG CCT CCC GGC GCC TGG CCC GGC CTT CCT GGG CTG CGT GCG CGT TCT GTT CTT CTT CCT GGC GCA
GGA GAC AGG GCA C GG CGA TCA GGA GCA GCG TGA GCC AAA GGA GGA CCA TCG GGA ACG CAG CTC CGG
AAC GCA GGA CAG AGG TGC C GC BGG BGB CBG GGC BGG GCG BTC BGG BGC BGC GTG BGC CBB BGG BGG

50 BCC BTC GGG BBC GCB GCT CCG GBB CGC BGG BCB GBG GTG CC-3' (FRAG. NO: 1750) (SEQ. ID NO: 1763)

GBG GTG CC-3' (FRAG. NO: 1751) (SEQ. ID NO: 1764)

5'- GCC CCG C-3' (FRAG. NO:1752) (SEQ. ID NO:1765)

5'-TCTGGGGTGTCCTG (FRAG. NO:1092) (SEQ. ID NO:1101)

5'-GCCTTCGTGGTTCC (FRAG. NO:1093) (SEQ. ID NO:1102)

55 5'-TCTTCCTTCGTTTGC (FRAG. NO:1094) (SEQ. ID NO:1103)

5'-CGTCCGCGGGGGC(CCCCGGGCCT (FRAG. NO:1095) (SEQ. ID NO:1105)

5'-GGC TGC GCT CCT GCC CCG C (FRAG. NO:1096) (SEQ. ID NO:1104)

- 5'-CTCTTTCCCGGGC1CTT (FRAG. NO:1097) (SEQ. ID NO:1106)
 5'-GCGCTGGGGGGTGCTCC (FRAG. NO:1098) (SEQ. ID NO:1107)
 5'-CGTGTGTTTGCGCCCTCCTCCTGGTCGC (FRAG. NO:1099) (SEQ. ID NO:1108)
 5'-GCTTGTGCTTTTGC (FRAG. NO:1100) (SEQ. ID NO:1109)
 5'-GGCCGGCTTTGCCCGCCTCCC (FRAG. NO:1101) (SEQ. ID NO:1110)
 5'-GGCGCTGGCCCCGCC (FRAG. NO:1102) (SEQ. ID NO:1111)
 5'-TTCCTGGGCTGCGTGGCG (FRAG. NO:1103) (SEQ. ID NO:1112)
 5'-GTTCTGTTCTTCTTCTGGC (FRAG. NO:1104) (SEQ. ID NO:1113)
 5'-GCB GGB GBC BGG GCB GGG CGB TCB GGB GCB GCG TGB GCC BBB GGB GGB CCB TCG GGB BCG CBG CTC
 CGG BBC GCB GGB 5' CBG BGG TGC C (FRAG. NO:1105) (SEQ. ID NO:1114)

Human IL-4 Nucleic Acid and Antisense Oligonucleotide Fragments

- 5'-CTC TGG TTG GCT TCC TTC GCC GGC BCB TGC TBG CBG GBB GBB CBG BGG GGG BBG CBG TTG GGB GGT
 GBB BCC CBT TBB TBG GTG TCG B-3' (FRAG. NO: 1753) (SEQ. ID NO: 1766)
 5'-GCC GGC BCB-3' (FRAG. NO: 1754) (SEQ. ID NO: 1767)
 5'-T TCC TTC-3' (FRAG. NO:1755) (SEQ. ID NO:1768)
 5'-CTC TGG TTG GCT TCC TTC-3' (FRAG. NO:1106) (SEQ. ID NO:1115)
 5'-GCCGGCBCTGCTGCBGGBBBBGBGGGGGGBGCBGTTGGGBGGTGBGBCCCBTTBBTBGGGTGTCGB-3' (FRAG.
 NO:1107) (SEQ. ID NO:1116)

Human IL4 Receptor Nucleic Acid and Antisense Oligonucleotide Fragment

- 5'-TCT GCC CTG TCC GCC GGC TCT TCG GTG GCT CGG CCC CGC TCC TTG TCT TGC CGC GGG TTG GTT CCT
 GGG CCT GGT TCT TGC GGG CGT TTC GGT CTG CTG GCT GGT CTG GGC CCG CGG TGC GGC GGG TGG CTT GCT
 GTT CTG CCT GGG CTC TCC CCT CTC CTC CTT TTC TCC CTT CCT CTG TCT TGC CTC CTT CCT CTG GGT CCT
 CTT GGC CTG GGC GAT CTT CCC CTC GGG CGG CTG CGG GCG CTC GTG CTG CCT GGT CCG CTC CCT GGG GGT
 GCT CCT TCC CTT TCC CCG CTC GTG GGG TTT GCG GGG CTG GGC TGC CCT GGG GGG TCT GGG CCT TTT GGG
 GTC GGC TGG CTG CTG CTT CGG GCC GCC TGG GCT TCC CTG TGC CCC TTT CCT CTG CTG GGT CCC CCT CCC
 GTT CCA AGC TGC ACC GCA CAG ACC GGC GCT ACA GGA CAG AGC CAG GCA AGC ACC CAT GGG GAT CCA
 GGC CCA GCT GTT CCB BGC TGC BCC GCB CBG BCC GGC GCT BCB GGB CBG BGC CBG GCB BGC BCC CBT GGG
 GBT CCB GGC CCB GCT G-3' (FRAG. NO: 1756) (SEQ ID NO:1769)
 5'-TCTGCGC-3' (FRAG. NO: 1757) (SEQ ID NO: 1770)
 5'-CCT GCT CCT GGG G (FRAG. NO:1758) (SEQ. ID NO:1771)
 5'-TCTGCGCGCCCTCCTCC (FRAG. NO:1108) (SEQ. ID NO:1117)
 5'-CGCCCGGCTTCTCT (FRAG. NO:1109) (SEQ. ID NO:1118)
 5'-CGTGTGGGCTTCGG (FRAG. NO:1110) (SEQ. ID NO:1119)
 5'-CCCCGCGCCTCCGTGTGTTCTC (FRAG. NO:1111) (SEQ. ID NO:1120)
 5'-TGCTCGCTGGGCTTG (FRAG. NO:1112) (SEQ. ID NO:1121)
 5'-GGTTTCTGGGGCTGGGTTTC (FRAG. NO:1113) (SEQ. ID NO:1122)
 5'-TCTGCCGGGTCGTTC (FRAG. NO:1114) (SEQ. ID NO:1123)
 5'-GGGTGCTGGCTGCG (FRAG. NO:1115) (SEQ. ID NO:1124)
 5'-CTTGGTGTGGGGCTCC (FRAG. NO:1116) (SEQ. ID NO:1125)
 5'-GGCGGCTGCGGGCTGGGTTGGG (FRAG. NO:1117) (SEQ. ID NO:1126)
 5'-CTTGGTGTGTTCTGGCCTCGGG (FRAG. NO:1118) (SEQ. ID NO:1127)
 5'-CCTCCTCCTCCTCCCTCGCTCCCTTTTCTTCTCT (FRAG. NO:1119) (SEQ. ID NO:1128)
 5'-TCCCTGCTGCTCTC (FRAG. NO:1120) (SEQ. ID NO:1129)
 5'-TGCCCTCCCTTCCCTCCTGG (FRAG. NO:1121) (SEQ. ID NO:1130)
 5'-GGTGCTCCTTGGCCCTGC (FRAG. NO:1122) (SEQ. ID NO:1131)
 5'-GGCTGCTCCTTGCCCC (FRAG. NO:1123) (SEQ. ID NO:1132)
 5'-CTCTGGGTGCGGGCTGGC (FRAG. NO:1124) (SEQ. ID NO:1133)
 5'-GGGGCGTCTGTGC (FRAG. NO:1125) (SEQ. ID NO:1134)
 5'-CTGGCCTGGGTGCC (FRAG. NO:1126) (SEQ. ID NO:1135)
 5'-GCCTCTCCTGGGGCGGTGGCTCCCTGTCC (FRAG. NO:1127) (SEQ. ID NO:1136)
 5'-CCTTTTCCCCCGGCTCC (FRAG. NO:1128) (SEQ. ID NO:1137)
 5'-GTGGGGGCTTTGGC (FRAG. NO:1129) (SEQ. ID NO:1138)
 5'-GGG GGT CTG TGG CCT GCT CCT GGG G (FRAG. NO:1130) (SEQ. ID NO:1139)
 5'-AGGGGTCTGGGGCTCTC (FRAG. NO:1131) (SEQ. ID NO:1140)
 5'-TTTGGGGGTCTGCCTTG (FRAG. NO:1132) (SEQ. ID NO:1141)
 5'-GCCTGGCTGCCTTC (FRAG. NO:1133) (SEQ. ID NO:1142)
 5'-GGGGCTGCCGTGGGGC (FRAG. NO:1134) (SEQ. ID NO:1143)
 5'-TGTCTCTGTGTCTCCCTT (FRAG. NO:1135) (SEQ. ID NO:1144)
 5'-TGCTGCTGTCTGG (FRAG. NO:1136) (SEQ. ID NO:1145)
 5'-GGTCCCGCCTTCCCT (FRAG. NO:1137) (SEQ. ID NO:1146)

5'-GTT CCC AGA GCT TGC CAC CTG CAG CAG GAC CAG GCA GCT CAC AGG GAA CAG GAG CCC AGA GCA AAG
 CCA CCC CAT TGG GAG ATG CCA AGG CAC CAG GCT G (FRAG. NO:1138) (SEQ. ID NO:1147)
 5'-GTT CCC BGB GCT TGC CBC CTG CAG GBC CBG GCB GCT CBC BGG GBB CBG GBG CCC BGB GCB BBG
 CCB CCC CBT TGG GEG BTG CCB BGG CBC CBG GCT G-3' (FRAG. NO:1139) (SEQ. ID NO:1148)

5 Human IL5* Nucleic Acid and Antisense Oligonucleotide Fragments

- 5'-TCCTGTTTC CCCCTTTTCG TTCTGCGTTT GCCTTTGGCG TTTTGTGTTT GTTTCTCTC TCCGTCTTTC
 TTCTCCCTT GTGGGB3TTT CTGTGGGGBT GGCBTBCBCG TBGGCBGCTC CBGBGCTBG CBBBCTCBBB
 TGCBBBGBCB TCCTC3TGGC TCTGBBBCGG TGGGAATTTC TGTGGGGBTG GCATACACGT AGGCAGCTCC
 AAGAGCTAGC AAAC`CAAAT GCAGAAGCATC CTCATGGCTC TGAAACG-3' (FRAG. NO: 1759) (SEQ. ID NO:
 1772)
 5'-GCC CCG GG-3' (FRAG. NO: 1760) (SEQ. ID NO: 1773)
 5'-G GGT TTC T-3' (FRAG. NO: 1761) (SEQ. ID NO: 1774)
 5'-GTG GGG BTG GC-3' (FRAG. NO: 1762) (SEQ. ID NO:1775)
 5'-CCB BGB GCT BGC-3' (FRAG. NO: 1763) (SEQ. ID NO: 1776)
 15 5'-TCC CTG TTT CCC CCC TTT-3' (FRAG. NO:1140) (SEQ. ID NO:1149)
 5'-CGT TCT GCG TTT GCC TTT GGC-3' (FRAG. NO:1141)(SEQ. ID NO:1150)
 5'-GTT TTT TGT TTG TTT TCT-3' (FRAG. NO:1142)(SEQ. ID NO:1151)
 5'-CTC TCC GTC TTT CTT CTC C-3' (FRAG. NO:1143) (SEQ. ID NO:1152)
 5'-CCT CCT GCC TGT GTC CCT GCT CCC C-3' (FRAG. NO:1144) (SEQ. ID NO:1153)
 20 5'-GAG GGT TTC TGG CTT CCT CTC T-3' (FRAG. NO:1145) (SEQ. ID NO:1154)
 5'-TGT CTC TCT GTC CTT TTG TT-3' (FRAG. NO:1146) (SEQ. ID NO:1155)
 5'-TGT TGT GCG GCC TGG TGC TGC CCT GCC CCG GG-3' (FRAG. NO:1147) (SEQ. ID NO:1156)
 5'-GTG GGA ATT TCT GTG GGG BTG GCA TAC ACG TAG GCA GCT CCA AGA GCT AGC AAA CTC AAA TGC AGA
 AGC ATC CTC ATG GCT CTG AAA CG-3' (FRAG. NO: 1764) (SEQ. ID NO: 1777)
 25 5'-GTG GGB BTT TCT TGG GGB BTG GCB TBC BCG TBG GCB GCT CCB BGB GCT BGC BBB CTC BBB TGC BGB BGC
 BTC CTC BTG GCT CTG BBB CG-3' (FRAG. NO:1148) (SEQ. ID NO:1157)

Human IL-5 Receptor Nucleic Acid and Antisense Oligonucleotide Fragments

- 5'-CTCAGTGGCC CCAAAAGGA TGAGTAATAC ATGCGCCACG ATGATCATAT CCTTTTACT ATGAGGCCGT
 GTCTGTCGTG TCTTCTCTT GCTCTTGGTG TGTCTTTGCT GTGCCCTGCC TCTCTGCCCG TGTCTGTCGT
 30 GTCTTTCTT TGCTCTTGGT GTGTCTTTGC TGTGCCCTGC CTCTCTGCC CGTGTCTGTC GTGTCTTTCC
 TTTGCTCTTG GTGTGTCITT GCTGTGCCCT GCCTCTCTG-3' (FRAG. NO: 1765) (SEQ. ID NO: 1778)
 5'-CCG TGT C-3' (FRAG. NO: 1766) (SEQ. ID NO: 1779)
 5'-GCCCTGCC-3' (FRAG. NO: 1767) (SEQ. ID NO: 1780)
 5'-CCG TGT CTG TCG TGT CT-3' (FRAG. NO:1149) (SEQ. ID NO:1158)
 35 5'-TTCTTTTGCTCTG-3' (FRAG. NO:1150) (SEQ. ID NO:1159)
 5'-GTGTGTCTTTGCTCT-3' (FRAG. NO:1151) (SEQ. ID NO:1160)
 5'-GCCCTGCCTCTCTC C-3' (FRAG. NO:1152) (SEQ. ID NO:1161)
 5'-CT CBGTGGCCCC (BBBBGGBTG BGTBBTBCBT GCGCCBCGBT GBTCBTBTCC TTTTBTCTBT GBGG (FRAG. NO:
 1768) (SEQ. ID NO: 1781)

40 Human IL-6 Receptor Fragments

- 5'-GGGGGTGGCT TCCTGCCGCG TCTCTGGGCC GTCCCGTCCC TCGGCCCGCG GCCGCGCTCG GCTCCTCTCC
 CTCTGGCCCG GCTCGGGGCG GGGCGGGGCG GTGGGCGGGC GGCGCTGCC TGCGCGCGGC GCTGGCCCT
 GCTGGCCGTC GGC1GCGCGC TGCTGGCTGC CCTGTGGCC GCGCCGGGGC CTGTCCGCT CTGCGGGCGC
 TGTCTCTGG CTGTCTTCC GGCTCTTCTG CTGGGGTGGG GCTGGGCGGC CGGCCCGGTG CTGGGGCTCC
 45 TCGGGGGGGG GGGTCTTCC GGGCTGTCTC CCTCCGGGGC GGGGGTTTCT GGCCGTGGGG GTCTTGCTTG
 GCCTCCGGGC TCC1GCTTGT CTTGCCTTCC TTCTCTGGTC GGTTGTGGCT CGGGGCTCCG TGGGTCCCTG
 GCGCCCGTTT GTG1TTTGTC TTTCCCTG GCGTCCCTGT GCCCTCTCC TCTCCTCCT CTGCTTCTCG
 CTCTCCTTG TGGGCGCCCTC CCTGCTGCTC TTGGTTTGG GCTTTTTC TCTCTCCT TTTTCGTGCG
 TGGGCTCCG CACGCTCTT GCCACCTCT GCGCAGGGCA GCGCCTTG GGCCAGCGCC GCTCCCGGCG
 50 CGGCGAGCAG GGCAGCCAGC AGCGCGCAGC CGACGGCCAG CATGCTTCT CCTCGGCTAC CACTCCATGG
 TCCCGCAGAG GCG3ACAGG GCBGCGCTC TTGCCBCTC CTGCGCBGG CBGCGCCTTG GGGCCBGGCG
 CGCTCCCGGC GCGGCBGCB GGGCBGCCBG CBGCGCBG CCGBCGGCCB GCBTGCTTCC TCCTCGGCTB
 CCBCTCCBTG GTCCGCBGB GGGGBCBGG C-3' (FRAG. NO: 1769) (SEQ. ID NO: 1782)
 5'-CCCGGCGC-3' (FRAG. NO:1184) (SEQ. ID NO:1193)
 55 5'-GGCCBGBCBGG-3' (FRAG. NO:1186) (SEQ. ID NO:1195)
 5'-GCBGCCBGBGCG-3' (FRAG. NO: 1770) (SEQ. ID NO: 1783)
 5'-C GCBGCCBGBGCGC -3' (FRAG. NO: 1771) (SEQ. ID NO: 1784)
 5'-GGGGGTGGCTTCC1GCC3'- (FRAG. NO:1153) (SEQ. ID NO:1162)
 5'-GCGTCTCTGGGCC1TCCC-3' (FRAG. NO:1154) (SEQ. ID NO:1163)

- 5'-GTCCCTCGGCCCGCGCGCTCGGCTCCTCTCCC-3' (FRAG. NO:1155) (SEQ. ID NO:1164)
 5'-TCTGGCCCCGGCTC-3' (FRAG. NO:1156) (SEQ. ID NO:1165)
 5'-GGGGCGGGGCGGGGCGGTGGGCGGGC-3' (FRAG. NO:1157) (SEQ. ID NO:1166)
 5'-GGCGCTGCCCTGCGC-3' (FRAG. NO:1158) (SEQ. ID NO:1167)
 5'-GCGGCGCTGGCCCC-3' (FRAG. NO:1159) (SEQ. ID NO:1168)
 5'-TGCTGGCCGTCGGCTGCGCGCTGCTGGCTGCCCT-3' (FRAG. NO:1160) (SEQ. ID NO:1169)
 5'-GCTGGCCGCGCCGGG-3' (FRAG. NO:1161) (SEQ. ID NO:1170)
 5'-GCCTGTCCGCCTCTGCGGG-3' (FRAG. NO:1162) (SEQ. ID NO:1171)
 5'-CGCTGTCTCCTGGC-3' (FRAG. NO:1163) (SEQ. ID NO:1172)
 5'-TTGTCTCCGGCTCT-3' (FRAG. NO:1164) (SEQ. ID NO:1173)
 5'-TCTGCTGGGGTGGG-3' (FRAG. NO:1165) (SEQ. ID NO:1174)
 5'-GCTGGGCGGCCGGGCCGGT-3' (FRAG. NO:1166) (SEQ. ID NO:1175)
 5'-GCTGGGGCTCCTCGGGG-3' (FRAG. NO:1167) (SEQ. ID NO:1176)
 5'-GGGGGCTCTTCCG-3' (FRAG. NO:1168) (SEQ. ID NO:1177)
 5'-GCTGTCTCCCTCCGGG-3' (FRAG. NO:1169) (SEQ. ID NO:1178)
 5'-GCGGGGTTTCTGCGC-3' (FRAG. NO:1170) (SEQ. ID NO:1179)
 5'-GTGGGGGTCTTGC-3' (FRAG. NO:1171) (SEQ. ID NO:1180)
 5'-TGGCCTCCGGGCTC-3' (FRAG. NO:1172) (SEQ. ID NO:1181)
 5'-TGCTTGTCTTGCCCTTCCTC-3' (FRAG. NO:1173) (SEQ. ID NO:1182)
 5'-TCTGGTCCGTTGTCTGCTCG-3' (FRAG. NO:1174) (SEQ. ID NO:1183)
 5'-GGGCTCCGTGGGTCTCTGGC-3' (FRAG. NO:1175) (SEQ. ID NO:1184)
 5'-GCCCCGTTGTGTTTGTGTC-3' (FRAG. NO:1176) (SEQ. ID NO:1185)
 5'-TTTTCCCTGGCGT-3' (FRAG. NO:1177) (SEQ. ID NO:1186)
 5'-CCCTGTGCCCTCTCCTCTCCTTCTCTGCTTCTC-3' (FRAG. NO:1178) (SEQ. ID NO:1187)
 5'-GCTCTCCTTTGTGGG-3' (FRAG. NO:1179) (SEQ. ID NO:1188)
 5'-GCCCTCCCTGCTGCT-3' (FRAG. NO:1180) (SEQ. ID NO:1189)
 5'-CTTGGTTTGGGCT-3' (FRAG. NO:1181) (SEQ. ID NO:1190)
 5'-TTTTTCTCTCTCCTCTTTTTC-3' (FRAG. NO:1182) (SEQ. ID NO:1191)
 5'-GTGCGTGGGCCTC-3' (FRAG. NO:1183) (SEQ. ID NO:1192)
 5'-GCACGCCTCT TGCCACCTCC TGCGCAGGGC AGCGCCTTGG GGCCAGCGCC GCTCCCGGCG CGGCCAGCAG
 GGCAGCCAGC AGCGCGCAGC CGACGGCCAG CATGCTTCCT CCTCGGCTAC CACTCCATGG TCCCGCAGAG
 GCGGACAGGC-3' (FRAG. NO:1185) (SEQ. ID NO:1194)
 5'-GCBGCGCTCT TGCCBCCTCC TGCGCBGGG BCGCCTTGG GGCCBGCGCC GCTCCCGGCG CGGCCBGCGB
 GGCBCBGB CBGCGCGCBG CCGBCGGCCB GCBTGCTTCC TCCTCGGCTB CCBCTCCBTG GTCCCGCBGB
 GGCGBCBGG C-3' (FRAG. NO:1187) (SEQ. ID NO:1196)

Human IL-6 Nucleic Acid and Antisense Oligonucleotide Fragments

- 5'-GGGGGTGGCT TCCTGCCGCG TCTCTGGGCC GTCCCGTCCC TCGGCCCGCG GCCGCGCTCG GCTCCTCTCC
 CTCTGGCCCG GCTCGGGGCG GGGCGGGGCG GTGGGCGGGC GCGCTGCCCG TGCGCGCGGC GCTGGCCCT
 GCTGGCCGTC GGCCTGCGCG TGCTGGCTGC CCTGTGGCC GCGCCGGGGC CTGTCCGCTG CTGCGGGCGC
 40 TGCTCCTGG CTGTCTTCC GGCTCTTCT GGTGGGTGGG GCTGGGCGGC CGGCCCGGTG CTGGGGCTCC
 TCGGGGGGGG GGGCTCTTCC GGGCTGTCTC CCTCCGGGGC GGGGGTTTCT GGCCGTGGGG GTCTTGCTG
 GCCTCCGGGC TCTGCTTGT CTTCCTTCC TTCTGTGGT GGTGTGGCT CGGGGCTCCG TGGGTCCCTG
 GCGCCCGTT GTGTTTGTG TTTCCCTG GCGTCCCTGT GCCCTCTCC TCTCCTTCT CTGCTTCTG
 CTCTCCTTG TGGCGCCCTC CTGTGCTCT TTGGTTTGG GCTTTTTC TCTCTCTCT TTTCTGTGCG
 45 TGGGCCTCC GCACGCTCT TGCCACCTCC TGCGCAGGGC AGCGCCTTGG GGCCAGCGCC GCTCCCGGCG
 CGGCCAGCAG GGCAGCCAGC AGCGCGCAGC CGACGGCCAG CATGCTTCCT CCTCGGCTAC CACTCCATGG
 TCCCGCAGAG GCGGACAGGC GCBGCGCTC TTGCCBCTC CTGCGCBGGG CBGCGCCTTG GGGCCBGCGB
 CGCTCCCGGC GCGGCCBGB GGGCBGCCB CBGCGCGCBG CCGBCGGCCB GCBTGCTTCC TCCTCGGCTB
 CCBCTCCBTG GTCCCGBGB GCGGBCBGG C-3' (FRAG. NO:1772) (SEQ. ID NO:1785)
 50 5'-GGGGCBGG-3' (FRAG. NO:1773) (SEQ. ID NO:1786)
 5'-GBBGGCBG CBGGC 3' (FRAG. NO:1774) (SEQ. ID NO:1787)
 5'-CCBGGBGCBB CCC-3' (FRAG. NO:1775) (SEQ. ID NO:1788)
 5'-BGGG BGGGGCB-3' (FRAG. NO:1776) (SEQ. ID NO:1789)
 5'-GCT TCT CTT TCG TC CCG GTG GGC TCG-3' (FRAG. NO:1188) (SEQ. ID NO:1197)
 55 5'-GTG GCT GTC TGT GTG GGG CGG CT-3' (FRAG. NO:1189) (SEQ. ID NO:1198)
 5'-GTG CTT TGT TGC TTT C-3' (FRAG. NO:1190) (SEQ. ID NO:1199)
 5'-GAT TCT TTG CCT TTT TCT GC-3' (FRAG. NO:1191) (SEQ. ID NO:1200)
 5'-CTCCTGGGG TBCTGGGGCB GGGBBGGCBG CBGGCBBCB CBGGBGCBC CCCBGGGBG BGGCBCTGG BCCBBGGCG
 CTTGTGGGB BGGGTTTBT BGCTGGGCTC CTGGGGGG BGTBGGC-3' (FRAG. NO:1777) (SEQ. ID NO:1790)

60 Human Monocyte-derived Neutrophil Chemotactic Factor

Nucleic Acid and Antisense Oligonucleotide Fragments

- 5'-GGGGTGGBBB GGTTTGGBGT BTGTCTTTBT GCBCTGBCBT CTBBGTCTT TBGCBCTCCT TGGCBBBCT
 GCBCTTCBC BCBGBGCTGC BGBBTTBGG BBGGCTGCCB BGBBGCCBC GGCCBGCTTG GBBGTCTGT
 TTBCBCBCBG TBGBGTGGT CCTCCGGG TTGTGTGCTC TGCTGTCTCT TGGTTCCTTC CGGTGGTTTC
 5'-GGGTGGCTC TTGTCTTTTC TCTTGG CCTTGGC-3' (FRAG. NO:1778) (SEQ. ID NO: 1791)
 5'-GGBGT BTG-3' (FRAG. NO:1779) (SEQ. ID NO: 1792)
 5'-GCBCTGBCBT CT-3' (FRAG. NO:1780) (SEQ. ID NO:1793)
 5'-CCG GTG G-3' (FRAG. NO:1781) (SEQ. ID NO: 1794)
 5'-GG CCC TTG GC-3' (FRAG. NO:1782) (SEQ. ID NO: 1795)
 5'-GCT TGT GTG CTC TGC TGT CTC T-3' (FRAG. NO:1192) (SEQ. ID NO:1201)
 5'-TGG TTC CTT CCG GTG GTT TCT TCC TGG CTC TTG TCC T-3' (FRAG. NO:1193) (SEQ. ID NO:1202)
 5'-TTC TCT TGG CCC TG GC-3' (FRAG. NO:1194) (SEQ. ID NO:1203)
 5'-GGGTGGBBB GGTTTGGBGT BTGTCTTTBT GCBCTGBCBT CTBBGTCTT TBGCBCTCCT TGGCBBBCT
 GCBCTTCBC BCBGBGC-3' (FRAG. NO:1783) (SEQ. ID NO: 1796)

Human Neutrophil Elastase (Medullasin) Nucleic Acid and Antisense Oligonucleotide Fragments

- 5'-GGGCTCCCGC CGTGBGBGGT TBTGGGCTCC CBGGBCCBCC CGCBCCGCGC GGBCGTTTBC BTTCGCCBCG
 CBGTGCGCGG CCGECBTGBC GBBGTGGGC GCBTTCBGGG TGGCGCCGCB GBBGTGGCCT CCGCGCBGCT
 GCBGGGBCBC CBTGBBGGGC CBGCGTGCG GCGCGCTCG CCGGCCCCCB BCBBTCTCCG BGGCCBGC GC
 GGTGCCCCC BCBGCBGGG CCGGCBGGBC BCBGGCGBGG BGBCBGCGCB GTCGGCGGCC GBGGGTCTBG
 5'-GGGTGGTGG GGC CCGGGG TCTTGCCCC TCCGTGCTGG TGGGGCTGGG GCTCCGGGG TCTCTGCCCC
 TCCGTGCCGC GTGGGGCCGC GCTCGCCGGC CCCCCCTGC CGGTGGGCT CCGCCGCGC GCCGCCTGC
 CGGCCCTCG TGGGTCTGC TGGCCGGGTC CGGTCCCGG GGTGGGGCG CGBGTCGGCG GCCGBGGGTC-3'
 (FRAG. NO:1784) (SEQ. ID NO: 1797)
 5'-GG TGG GGC-3' (FRAG. NO:1785) (SEQ. ID NO: 1798)
 5'-G GGG CCG -3' (FRAG. NO:1786) (SEQ. ID NO:1799)
 5'-GGC CGG GTC CGC G-3' (FRAG. NO:1787) (SEQ. ID NO: 1800)
 5'-TGG TGG GGC TGG GGC TCC GGG GTC TCT GCC CCT CCG TGC-3' (FRAG. NO:1195) (SEQ. ID NO:1204)
 5'-CGC GTG GGG CCG CGC TCG CCG GCC CCC C-3' (FRAG. NO:1196) (SEQ. ID NO:1205)
 5'-CCT GCC GGG TGG GCT CCC GCC GCG-3' (FRAG. NO:1197) (SEQ. ID NO:1206)
 5'-CGC CGG CCT GCC GGC CCC TC-3' (FRAG. NO:1198) (SEQ. ID NO:1207)
 5'-GTG GGT CCT GCT GGC CGG GTC CGG GTC CCG GGG GTG GGG-3' (FRAG. NO:1199) (SEQ. ID NO:1208)
 5'-CGC GBG TCG GCG GCC GBG GGT C-3' (FRAG. NO:1200) (SEQ. ID NO:1209)
 5'-GGGCTCCCGC CGTGBGBGGT TBTGGGCTCC CBGGBCCBCC CGCBCCGCGC GGBCGTTTBC BTTCGCCBCG
 CBGTGCGCGG CCGECBTGBC GBBGTGGGC GCBTTCBGGG TGGCGCCGCB GBBGTGGCCT CCGCGCBGCT
 GCBGGGBCBC CBTGBBGGGC CBGCGTGCG GCGCGCTCG CCGGCCCCCB BCBBTCTCCG BGGCCBGC GC
 GGTGCCCCC BCBGCBGGG CCGGCBGGBC BCBGGCGBGG BGBCBGCGCB GTCGGCGGCC GBGGGTCTBG
 GTGGGGCTGG GGCTCGGGG TCTTGCCCC TCCGTGC-3' (FRAG. NO:1788) (SEQ. ID NO: 1801)

Human Neutrophil Oxidase Factor Nucleic Acid and Antisense Oligonucleotide Fragments

- 5'-CGGGBGTGGG GGTCTGGBC GGCCTGGBG GCBTCCBGGG CTCCCTCCB GTCCTTCTG TCCGCTGCCB
 40 GCBCCCTTC BTTCBGBGG CTBGTGGCT CCBCCBGGGB CBTGBTTBGG TBGBBBCTBG GBGGCCGGCC
 TCCBCCBGGG BCBTGGTCTT TCTGTCCGC TGCCTCTCTG GGGTTTTCCG TCTGGGTGGG CTTTCTCTCT
 GGGGCTGCTG CTGGGCTCTT CTTTTGTTT CTGGCCTGGT GCTCTCTCTG GCCCTTCCC TTGGGTGTCT
 TGTTTTGTG GCCTCCBCCB GGGBCBTG-3' (FRAG. NO:1789) (SEQ. ID NO: 1802)
 5'-CGGGBGTGGG GG-3' (FRAG. NO:1790) (SEQ. ID NO: 1803)
 5'-GCCBGCBCCC-3' (FRAG. NO:1791) (SEQ. ID NO: 1804)
 5'-C CBC CBG-3' (FRAG. NO:1792) (SEQ. ID NO: 1805)
 5'-GGC CTC CBC CBG GGB CBT G-3' (FRAG. NO:1201) (SEQ. ID NO:1210)
 5'-GTC CTT CTT GTC CGC TGC C -3' (FRAG. NO:1202) (SEQ. ID NO:1211)
 5'-TCT CTG GGG TTT TCG GTC TGG GTG G-3' (FRAG. NO:1203) (SEQ. ID NO:1212)
 5'-GCT TTC CTC CTG GGG CTG CTG CTG-3' (FRAG. NO:1204) (SEQ. ID NO:1213)
 5'-GGC TCT TCT TTT TGT TTC TGG CCT GGT G-3' (FRAG. NO:1205) (SEQ. ID NO:1214)
 5'-CTC TCT CGT GCC CTT TCC-3' (FRAG. NO:1206) (SEQ. ID NO:1215)
 5'-CTT GGG TGT CTT GTT TTT GT-3' (FRAG. NO:1207) (SEQ. ID NO:1216)
 5'-GGC CTC CBC CBG GGB CBT G-3' (FRAG. NO:1208) (SEQ. ID NO:1217)
 55 5'-CGGGBGTGGG GGTCTGGBC GGCCTGGBG GCBTCCBGGG CTCCCTCCB GTCCTTCTG TCCGCTGCCB
 GCBCCCTTC BTTCBGBGG CTBGTGGCT CCBCCBGGGB CBTGBTTBGG TBGBBBCTBG GBGGCC-3' (FRAG.
 NO:1793) (SEQ. ID NO: 1806)

Human Cathepsin G Nucleic Acid and Antisense Oligonucleotide Fragments

5'-CCCTCCBCBT CTGCTGBC CTGCTGGBCT CTGGBTCTGB BGBTBCGCCB TGTBGGGGCG GBBGTGGGGC

CTGCTCTCCC GGCCTCCGBT GBTCTCCCCT GCCTCBGCCC CBGTGGGTBG GBGBBBGGCC BGCBGBBGC
 GGBGTGGCTG CBTCTTTCCT GGTGGGGCCT GCTCTCCCGG CCTCCGTGTG TTGTGGGTG TTTTCCCGTC
 TCTGGTCTGC CTTCG3GGGT CGT-3' (FRAG. NO:1794) (SEQ. ID NO: 1807)

5'-GBBGBTBCGCC-3' (FRAG. NO:1795) (SEQ. ID NO: 1808)

5 5'-CBGCCCCBG-3' (FRAG. NO:1796) (SEQ. ID NO: 1809)

5'-TCC CGT CTC TGG-3' (FRAG. NO:1797) (SEQ. ID NO: 1810)

5'-GTG GGG CCT GCT CTC CCG GCC TCC G-3' (FRAG. NO:1209) (SEQ. ID NO:1218)

5'-TGT GTT GCT GG GTG TTT TCC CGT CTC TGG-3' (FRAG. NO:1210) (SEQ. ID NO:1219)

5'-TCT GCC TTC GGG 3GT CGT-3' (FRAG. NO:1211) (SEQ. ID NO:1220)

10 5'-CCCTCCBCBT CTGCTCTGBC CTGCTGGBCT CTGGBTCTGB BGBTBCGCCB TGTBGGGGCG GGBGTGGGGC
 CTGCTCTCCC GGCCTCCGBT GBTCTCCCCT GCCTCBGCCC CBGTGGGTBG GBGBBBGGCC BGCBGBBGC
 GGBGTGGCTG-3' (FRAG. NO:1798) (SEQ. ID NO: 1811)

Human Defensin 1 Nucleic Acid and Antisense Oligonucleotide Fragments

5'-CCGGGGCTGC BGCBBCCTCB TCBGCTCTTG CTTGGBGTGG CTBGCCTGG GCCTGCBGGG CCBCCBGBG
 15 BBTGGCBGCB BGGETGGCGB GGGTCCCTBT GGCTGGGGTC BCBGTCCTC TBGCTBGGCB GGGTGBCCBG
 BGBGGGC GGG TCC TCB TGG CTG GGG GCC TGG GCC TGC BGG GCC GCT CTT GCC TGG BGT GGC TC GCC CBG
 BGT CTT CCC TGG T GCTCAGCCTC CAAAGGAGCC AGCCTCTCCC CAGTTCCTGA AATCCTGAGT GTTGCTGCC
 AGTCGCCATG AGAATCTTCT ACCTTCTGCT GTTACTCTC TGCTTACTTT TGCTGAGAT GGCCTCAGGT
 GGTAACCTTC TCACAGGCCT TGGCCACAGA TCTGATCATT ACAATTGCGT CAGCAGTGGA GGGCAATGTC
 20 TCTATTCTGC CTGCTCGATC TTTACCAAAA TTCAAGGCAC CTGTTACAGA GGAAGGCCA AGTGCTGCAA
 GTGAGCTGGG AGTCAACCAGA AGAAATGACG CAGAAAGTAA ATGAACTTT TATAAGCATT CTTTAAATAA
 AGGAAAATTG CTTTGAAGT AT CTGCACTGGT AAAAAGATTG TATATCTGCT GTTGTATGAA TGCAGACCC
 ACTAGCCACA TAGTGCTCGT GAGCACTTGC AATGCGGCTA GGGTGATTTC AATTAACCTA AAAGAGAACA
 GCCACAGGGA GCAATGTGGCT GCCATATTGG ATGGTGCTGC TTTGAGAACA AAATGAGAGA AATGAAGCCT
 25 CTATTACCT TGGTGGCGG AACACATTGA AGGACTCTG TATTGATACC AGGCTTCAAA CTTTGGGAAG
 TGTACTGGCC AACTTAAACA CATCCACAGG AGAATGAAGA GGTTTGGGAA GGGACCAGAA ACCAGGCATT
 GAGGACAATG AGAAGAGTTT TTCAAAAGTG GAATTACTGC AAAAAGTGGA AAAATAGCCT TTGGATGGAA
 GTTACTGATG AGACAATTC CATCGGTGTG AAAGCCATCT TTCCAACAGA GATCTGCAAC ATGAGAATGT
 ACTGTCTCCT AGGCTAGCGA TGGCCTCTTG TATTAGTCCG CTCAGGCTAC CAGATTTATC GTTTAAACTG
 30 CCCATAAACA GACCAAGCAG TTTAAACAAC AGAAATTAT TTCCTCGCAG TCCTGGAGGC AGGAAGCTG
 CGATCAAGGT GGAAGCAGGG TTGGCTTCTT CTCAGGTGTC TGTCTTGGC TGGTAGATGA CCGCCGCTC
 CTTGGTCTCT CACATGGTCT TTCTCTGTG TGTGTCTGTC CCAATCTCTT CTTATAAGGA TGCAAGTCTT
 ATGGATCAGA GCACACCCCA ATGACCGTGT TTAACGTGAA TCACCTCTT AAAGTTTCTC TCTCCAATA
 CAATCACCTC CTGAGGCACT GTTAGGGCTT CGACACAGAA ATTCTTTTCC TAGGGGATTG AGTTCAGTCC
 35 AAAACGCCTA CCAATGGAGA CTTGCAACAT GGCGGCTGC TGGTCCCTCG CCAGGAATAT CACAGGCGAC
 TGTTCCTGT TGCAATGGAAT AGAAGGCTAT TCCAGAGTAC TGTCTCTATT TATCAGATCT GGGATACTGG
 GAGAAGGGCA AAAAAGAGTC CAAGTAGAAA AAAAAACTAT GAAAGTTTGA GAGAGTAACC ATAATTTCAG
 CCCGATGTGA AACCATCCTA GATTTAGCT GAAATAGTGA TGTGGGAAGT GAGGGGGCCG GGATTCAAGG
 CAGAGGGAAC AGCTTAACCTG AAGGCATGGA AGGAGGGAAG TGTAGGCTGT GTTTGAAGAG TGGCAGCTGC
 40 TTCCACATTT CTAAACACA GGATGTGATT TTGGGTGTG TTGAGACAAG GCAGAAAAT TGTTTGAAA
 AATAACTTGA ATTCCTGCA CATTTAAAT CTCTCAGCAG AAGAAAACCC CACTCAGAAC CCCACTGTTT
 ATTCCTTGGC TTGTATTGG SCACAGCTGG CATAGCCCCA GACTGAGTAA GCTCTTCAGA CACCTCATTT
 CATGAGTAGC CCCAAGATC AATCATGGGC CAATTTCTTG GAAGAGAAGA CTCTCCGGTG TTTTGCAGTT
 ATTTGTCTG CTTTCCGAG ATGTTCTCAA ATCGTTGCAG CTACAAGCCA TGAGTCTGAA GTGTTTGTGT
 45 TCCCTCCTTA CAGGTGGTAA CTTTCTACA GGCCTTGGCC ACAGATCTGA TCATTACAAT TGCGTCAGCA
 GTGGAGGGCA ATGCTCTAT TCTGCCTGCC CGATCTTTAC CAAAATTCAA GGCACCTGTT ACAGAGGGAA
 GGCCAAGTGT TGCAAGTGAG CTGAGAGTGA CCAGAAGAAA TGACGCAGAA GTGAAATGAA CTTTTTATAA
 GCATTCTTTT AATAAAGGAA AATTGCTTTT GAAGTATACC TCCTTTGGGC CAAAATGAAT CTTGTGTCTC
 AATTGGAAGA GGTAAAGAAG TAGGGGGTTA GGGTGCATGG GTTGGAACGT GAGACAGGTC GAACCACAAA
 50 GCCTGCCTGG AAAAGGGGAG TGACGTCTTA GGCTTCAGTG ATGTCACCTC CACTTTGTTT GATCCACAAA
 CCAACAGGTG ACTCATTTTG GTCAGCTCAG CCTCCAAAGG AGCCAGCCTC TCCCAGTTT CTGAAATCCT
 GAGTGTGCC TGCCAGTCGC CATGAGAACT TCCTACCTTC TGCTGTTTAC TCTCTGCTTA CTTTGTCTG
 AGATGGCCTC AGGTGGTAAC TTTCTCACAG GCCTTGGCCA CAGATCTGAT CATTACAATT GCGTCAGCAG
 TGGAGGGCAA TGTCTCTATT CTGCTGCCC GATCTTTACC AAAATTCAAG GCACCTGTTA CAGAGGGAAG
 55 GCCAAGTGCT GCAAGTGAGC TGGGAGTGAC CAGAAGAAAT GACGCAGAAG TGAAATGAAC TT -3'
 (FRAG.NO:1799) (SEQ. ID NO: 3010)

5'-GTCAGCTCAG CCCTCAAAGG AGCCAGCCTC TCCCAGTTT CTGAAATCCT GAGTGTGCTG TGCCAGTCGC
 CATGAGAACT TCTACCTTC TGCTGTTTAC TCTCTGCTTA CTTTGTCTG AGATGGCCTC AGGTGGTAAC
 TTTCTCACAG GCCTTGGCCA CAGATCTGAT CATTACAATT GCGTCAGCAG TGGAGGGCAA TGTCTCTATT
 60 CTGCCTGCCC GATCTTTACC AAAATTCAAG GCACCTGTTA CAGAGGGAAG GCCAAGTGCT GCAAGTGAGC
 TGGGAGTGAC CAGAAAGAAAT GACGCAGAAG TGAAATGAAC TT-3' (FRAG.NO:) (SEQ. ID NO: 2475)

5'-CTGCAGTGGT AAAAAGATTC TATATCTGCT GTTTGATGAA TGCAGCACCC ACTAGCCACA TAGTGCTCGT
 GAGCACTTGC AATC CGGCTA GGGTGATTTT AATTAACCTA AAAGAGAACA GCCACAGGGA GCATGTGGCT
 GCCATATTGG ATGC/TGCTGC TTTGAGAACA AAATGAGAGA AATGAAGCCT CTATTTACCT TGGTTGGCGG
 AACACATTGA AGGGACTCTG TATTGATACC AGGCTTCAAA CTTTGGGAAG TGTACTGGCC AACTTAAACA
 5 CATCCACAGG AGA/TGAAGA GGT'TTGGGAA GGGACCAGAA ACCAGGCATT GAGGACAATG AGAAGAGTTT
 TTCAAAAGTG GAA/TACTGC AAAAAGTGGA AAAATAGCCT TTGGATGGAA GTTACTGATG AGACAATTTT
 CATCGGTGTG AAAGCCATCT TTCCAACAGA GATCTGCAAC ATGAGAATGT ACTGTCTCCT AGGGTAGCGA
 TGGCCTCTTG TATTAGTCCG CTCAGGCTAC CAGATTTATC GTTTAAACTG CCCATAAACA GACCAGGCAG
 TTTAAACAAC AGA/ATTTAT TTCTCTCGAG TCCTGGAGGC AGGAAGTCTG CGATCAAGGT GGAAGCAGGG
 10 TTGGCTTCTT CTCAGGTGTC GTCTCTTGGC TGGTAGATGA CCGCCGCCTC CCTGGGTCTT CACATGGTCT
 TTCCTCTGTG TGTGTCGTG CCAATCTCTT CTATAAGGA TGCAAGTCTT ATGGATCAGA GCACACCCCA
 ATGACCGTGT TTA/CTTGAA TCACCTCTTT AAAGTTTCTC TCTCCAAATA CAATCACCTC CTGAGGCACCT
 GTTAGGGCTT CGAC/ACAGGA ATTCTTTTCC TAGGGGATTC AGTTCAGTCC AAAACGCCTA CCAGTGGAGA
 CTTGCAACAT GGCC/GCCTGC TGGTCCCTCG CCAGGAATAT CACAGGCGAC TGTTCCTGTG TGCATGGAAT
 15 AGAAGGCTAT TCCAGAGTAC TGTCTCTATT TATCAGATCT GGGATACTGG GAGAAGGGCA AAATAAAGTC
 CAAGTAGAAA AAA/AACTAT GAAAGTTTGA GAGAGTAACC ATAATTTTCA CCCGATGTGA AACGATCCTA
 GATTTACAGT GAAATAGTGA TGTGGGAAGT GAGGGGGCCG GGATTCAAGG CAGAGGGAAAC AGCGTAACTG
 AAGGCATGGA AGGAGGGAAG TGTAGGCTGT GTTTGAAGAG TGGCAGCTGC TTCCACATTT CTAAAAACA
 GGATGTGATT TTGC/GGTGTG TTGAGACAAG GCAGAAAACCT TGT'TGGAAA AATAACTTGA ATTCCTGCA
 20 CATTTAAAT CTCTCAGCAG AAGAAAACCC CACTCAGAAC CCCACTGTTC ATTCTTGGC TGTATTGG
 SCACAGCTGG CAT/GCCCCA GACTGAGTAA GCTCTTCAGA CACCTCATTT CATGAGTAGC CCCAAAGATC
 AATCATGGGC CAA/TTCTTG GAAGAGAAGA CTCTCCGGTG TTTTGCAGTT ATTTGTCTG CTTTCGCGAG
 ATGTTCTCAA ATCC TTGCAG CTACAAGCCA TGAGTCTGAA GTGTTTGTGT TCCCTCCTTA CAGGTGGTAA
 CTTTCTCACA GGCC TTGGCC ACAGATCTGA TCATTACAAT TCGCTCAGCA GTGGAGGGCA ATGTCTCTAT
 25 TCTGCCTGCC CGATCTTAC CAAAATTCAA GGCACCTGTT ACAGAGGGAA GGCCAAGTGC TGCAAGTGAG
 CTGAGAGTGA CCA/GAAGAA TGACGCAGAA GTGAAATGAA CTTTTATAA GCATTCTTTT AATAAAGGAA
 AATTGCTTTT GAAGTATACC TCCTTTGGGC CAAAATGAAT CTTGTGTCTC AATTGGAAGA GGTAAAGAAG
 TAGGGGGTTA GGGTGCATGG GTTGGAAACGT GAGACAGGTC GAACCACAAA GCCTGCCTGG AAAAGGGGAG
 TGACGTCCTA GGCTTCAGTG ATGTCACCTC CACTTTGTTT GATCCACAAA CCAACAGGTG ACTGATTTTG-3'
 30 (FRAG.NO:) (SEQ. ID NO: 2474)
 5'-GCTCAGCCTC CAAAGGAGCC AGCCTCTCCC CAGTTCCTGA AATCCTGAGT GTTGCCTGCC AGTCGCCATG
 AGAACTTCTT ACC/TCTGCT GTTACTCTC TGCTTACTTT TGTCTGAGAT GGCTCAGGT GGTAACCTTC
 TCACAGGCCT TGG/CACAGA TCTGATCATT ACAATTGCGT CAGCAGTGGA GGGCAATGTC TCTATTCTGC
 CTGCCCCATC TTTACCAAAA TTCAAGGCAC CTGTTACAGA GGGAAAGGCCA AGTGCTGCAA GTGAGCTGGG
 35 AGTGACCATA AGA/ATGACG CAGAAGTGAA ATGAACTTTT TATAAGCATT CTTTAAATAA AGGAAAATTG
 CTTTGAAGT AT-3' (FRAG.NO:) (SEQ. ID NO: 2472)
 5'-CCGGGGC-3' (FRAG.NO:1800) (SEQ. ID NO: 1813)
 5'-GG GCCTGCBGGG CC-3' (FRAG.NO:1801) (SEQ. ID NO: 1814)
 5'-GGCBGCB BGG-3' (FRAG.NO:1802) (SEQ. ID NO: 1815)
 40 5'-GGG TCC TCB TGG CTG GGG-3' (FRAG. NO:1212) (SEQ. ID NO:1221)
 5'-GCC TGG GCC TGC BGG GCC-3' (FRAG. NO:1213) (SEQ. ID NO:1222)
 5'-GCT CTG GCC TGG 3GT GGC TC-3' (FRAG. NO:1214) (SEQ. ID NO:1223)
 5'-GCC CBG BGT TGT CCC TGG T-3' (FRAG. NO:1215) (SEQ. ID NO:1224)
 5'-CCGGGGCTGC BGCBBCTCB TCBGCTCTTG CCTGGBGTGG CTCBGCCTGG GCCTGCBGGG CCBCCBGGBG
 45 BBTGGCBGCB BGGHTGGCB GGGTCTCBT GGCTGGGGTC BCBGTCCTC TBGCTBGGCB GGGTGBCCBG
 BGBGGGC-3' (FRAG.NO:1803) (SEQ. ID NO: 1816)

Human Defensin 2 Nucelic Acid and Antisense Oligonucleotide Fragments

5'-ATCCTTTAAG TCAATGGACT TTGCATCAGT CACACCATCT TTTGTTACTT TGGACTTCCC CAGCTATGTT
 CAATAATTAC TGTCTTCCC TTGGGCCCCA TTGTAATGGC TACAGCCTCG AAAAAAGTC TACACTTTGA
 50 AGCATTAAGG CTC/GACATC AGCACCAAAT TTTACATCTT TACCATCACT TCAAGTGAGG TGAGGAGCCA
 GTAGCCTGGA CACT/GGTCTC ATCTGGTGAA AGACTGTGGG TAATGGAAGC ATTTCTGTGG GGTGCTGGCA
 GGACATGTGC ATGCGGAGGC AGGTCATCAG CAGCAAGTGA GAGCTGCCTC TTACTTTCTA AAGGTGACAT
 AGCAAATATA CAA/AAAAAA TAAATAAATT ATTAATTTAG GTAGAGCACA TAAAGGCTTT ATTTCATATT
 CCATTTCTCT GTATGCTTTC TTCACCAGGA AGAAATAGTT TTAGTGTCAG GAATGAATGA GTCTGCCCT
 55 CAATTCCAGC CTGCTCAACA CACAAGGAAA CAAAGCCCTG ACAATCAGAG TGACTCCCTG GTGACTAAGC
 TCCCAGTCTT GGATGCATAT TTGTTTAGCA GTTCTGACAG CATTTGACCC AGCCCTCTCT CTGCATATCC
 CATCAGAACC TCTTTTTTTT TTTTTTTCTT TGAGACTGAG TCTTGCTCTG TCGGAAGCGA CTCCTGTGCC
 TCAGCCTCCC AAA/ACCTGG AATTATAGCC GTAAGCCATC ATGCCTGGCT AATTTTGTGA TTTTTCATGG
 AGATGGGGTT TTGC/CATGTT GGTCAAATTG GTCTCACACT CCTGACCTCA TGTGATCCAC CTGCCTCAGC
 60 CTCCCAAACCT GCTC GGATGA CAGGTGTAAG CCACCATGCT AGGCTCAGAA ATTTCTTTT ATAAAAATGT
 CATTAAAGGAT CTTG GCTGCA CAATATCGTT ACCAGCTTCC TTAAATCCA CTCTGGCCT GCCAGGAATC



5	AGGTTCTTCA	GAACCTGACA	TTTTAAATGA	AGAGGTCAGG	CAGTTCATGA	GGAAAGCCTC	ATTGTCCTCA
	TGTTCTGTG	ACTGCTGCAC	CCCTGAGACA	TCACAGACAT	GGACACTGGG	GCCTGCTTGT	TTCTCAAAC
	GCCCTTAGAT	CGAAAGAGGG	AGGAAACCAGG	ATGAATGCCA	CTCATTTTCC	CAAGAAAGGC	CCTCTCCTGA
	GTGCCCCGGA	TGGGCTCTG	TCCATTGCCT	GGGGCCGCCA	ATTGCTACTC	TGGGTTACGG	AGGAAGGACA
	GGGTCTGAG	AGACACCAGA	GACCTCACAC	AGCCCTGAAA	ACATGGGGCT	CCTTCATAAG	TGTTTCCCAT
10	CACCAACAGG	GAGACCACGT	GGAGGCCTTG	CAGCCCCACT	CGGTGCTTCT	CCACCAAATC	CCAAGGGCAG
	TGACGCTGAC	GTCTGTGAA	AGCAGAGAAA	GCCCTGGCTC	CCAAAGCCCT	GAAGTCCCTG	TGGAGCTGAC
	ATTCCCTGAG	TGACGGTGTG	AATGGAAGGA	ACTCAAGTGC	GGGTGGTAGG	CCACCTCCTG	GCCCAAGCCT
	GGGTGAACTC	TGACGGGACA	CATGTAGTCA	CAATCCCATC	CTCCCATTTCT	CCTTCTCAGA	GGAAGGAAGT
	GGGCATCCAT	CTGCTCATC	TCTCTCCCGT	GGGGAAGATG	GGGAGTTTCA	GGGGAACTTT	CACATAAATT
15	TCACCAGCTC	AGATCTCCTG	TGAGGATGGG	GCCCACCATG	CTCCCGGTGC	TGCCAGAGGC	CCTGAGCCCC
	TCCCAGGGTC	CCTGGGTTTG	AGCCAGCCCT	GTATCATCCC	CAGGAGCTGA	ATGTCAGAGC	AATGGATAGA
	ATTAGATGGA	AAGAGCTCTC	AATTTGACCT	GAGACTGTCC	CCAGATACTC	AGGAAAAACA	GGACGTCGCA
	CAGAGTGGGC	AGCAGGTGAG	TGGCAGGTTA	TAGGTCCTGA	GTTTGAATTT	GTTCTCACGT	GAGACAGACC
	CAGCCCCCTC	CTCCATTCAC	ACACTGGGTT	TAAATGGTGT	CAAGATAGGA	GCAATTTTCT	GGTCCCAAGA
20	GCAGGAGGAA	GGGATTTTCT	GGGGTTTCTT	GAGTCCAGAT	TTGCATAAGA	TCTCTGAGT	GTGCATTGTT
	CTTTGAGGAC	CATCTCTGA	CTCACCAGGT	AAGTGGCTGA	ATTCTAACCT	CTGTAATGAG	CATTGCACCC
	AATACCAGTT	CTGAACCTCA	CCTGGTGACC	AGGGACCAGG	ACCTTTATAA	GGTGGAAGGC	TTGATGTCCT
	CCCAGACTC	AGCTCCTGGT	GAAGCTCCCA	GCCATCAGCC	ATGAGGGTCT	TGTATCTCCT	CTTCTCGTTC
	CTCTTCATAT	TCTGTATGCC	TCTTCCAGGT	GAGATGGGCC	AGGGAAATAG	GAGGGTTGGC	CAATGGAAG
25	AATGGCGTAG	AAGTCTCTG	TCTCCTCTCA	TTCCCTCCCA	CCTATCTCTC	CCTCATCCCT	CTCTCTCCTT
	CCTCTCTCTG	TGTTCTCCCT	CCATCCTTTT	CTCCTGCTTC	TCTCTCTTCT	TCCCTCTCTC	TCTTTTTTCT
	GTCTTTCTTT	TTCTCTCTCT	CCTAGAGCAT	GTCTTTCTTT	CTTTCTCTTT	CTTTCTCTCT	ACCCACACTT
	TTAGACTGAA	TGCCCTATTT	AATTGAAACA	AGCATTTGCT	CTTCAATAG	AAAAGGAGTT	TGAGAACCCA
	ATGGACACCT	CATCTGTTCT	TCTAAGCCAA	TATGAAGGAG	CCCAGTAGCT	TGTAAATATC	ATCTCTTCAC
30	TGCTTTCCAT	GCTACAACCT	CTGAGACTAT	GGTTGAAACC	TGTTAGGTGA	CTTTTTAAAT	AAAAGGCAGA
	AATTTTGATT	TTATCTAAAG	AAAGTAGTAT	AGAATGTCAT	TTTCTAAATT	TTTATATTTA	AAGGGTAGAT
	ACTGCAACCT	AGACCAATTCC	AGATAATCTT	AAGGCCCAGC	CTATACTGTG	AGAACTACTG	CAGCAAGACA
	CTCTGCCTCC	AGGACTTTTC	TGATCAGAGG	CCCTGAGAAC	AGTCCCTGCC	ACTAGGCCAC	TGCAGGTTCA
	CAGGACAGGG	TACAGCCCAT	TGAAACCTAC	TTTTAAACCT	GGATGCCTAA	CCTTCATTTT	CTCCTTGATA
35	TTATGAAAA	AAAAATAAAA	CCATGAAAGG	ATAAAGAGGG	GAGAGTGGAA	GGGAAGGATT	GAGAAAAGGA
	AAAAAGAAAT	TTGAGAGTAA	ATCTCAAAAA	AATTAATCTA	ATAGATATCA	TCTGTGAAA	TCTCATTTTT
	ACCAATCTTA	TTTATGAGTC	CTGGGTTTTG	TGAGAACAA	GGGGTTCTGA	GAGGCACCAG	AGACCTCATG
	TTTTCCAAAA	CCTAACAACAG	TATAATGAAG	GAAGGCGGGG	AGGCAGGGAG	GCAGGGAGGC	AGGGAGGCAG
	GGAGGCGGGC	AGGTGGGGAG	GGAGGGACGG	AAGGAGGGAG	GGAGGGAGGG	AGGGAGGGAG	GGAGGGGATA
40	AAAAAGAAGA	ATGAGGTTGA	AACCAGGACT	TAGATATTAG	AAACAAGCCA	TTACAAAATT	TATTTCTATG
	GTTAATTATG	GTTTCAACT	GTAAGTTACT	TGGTGTTAAT	TTCTATTAA	ACAATTTTCA	TAAGTTGCAT
	CTTTTTTGTC	CATCTCAGGT	CAAATACTTA	ACAGACTAAA	TGATTTGAAA	AAGCAAAAGT	TTACTGGCTT
	GTGTGTGTTA	AAATGGAGGT	ATGGTGGCTT	TGATATTATC	TCTTGTGGT	GGAGCTGAAT	TCACAAGAGA
	TCGTTGCTGA	GCTCCTACCA	GACCCACCT	GGAGGCCCCA	GTCATCTCAGG	AGAGATCAGG	GTCTTTCACA
45	ATCAGGTTCT	ACAATAATA	ACATCCCCC	AACCACAGCA	GTGCCAGTTT	CCATGTCAGA	AACTTAGATC
	CAAAAGACTG	ACTGCGTCT	CATTATCATG	ATGGAAGAGC	CCAGGCTTGA	GAAAGAAGCC	CGCTGCGGAT
	TTACTCAAGG	CGATCTGAC	ACAGGGTTTG	TGTTTTTCCA	ACATGAGTTT	TGAGTTCTTA	CACGCTGTTT
	GCTCTTTTTG	TGTGTTTTTT	CCCTGTTAGG	TGTTTTTGGT	GGTATAGGCG	ATCCTGTTAC	CTGCCTTAAG
	AGTGGAGCCA	TATGTCATCC	AGTCTTTTGC	CCTAGAAAGT	ATAAACAAAT	TGGCACCTGT	GGTCTCCCTG
50	GAACAAAATG	CTGCAAAAAG	CCATGAGGAG	GCCAAGAGAG	TGCTGTGGCT	GATGCGGATT	CAGAAAAGGC
	TCCCTCATCA	GAGACGTGCG	ACATGTAAC	CAAAATTAAC	TATGGTGTCC	AAAGATACGC	AATCTTTATC
	CTAGTAATTG	TGGTCATTGG	GTGATGTTGG	TTTGGGCAGG	CCATCTCTAA	TATCCTTGAA	ACACCTTTTT
	CTGCTCTCCA	GGAAGGGGTC	AGGGCTGCCA	CAGCGGGGCT	TGGAGTGCTT	TCCAGGGTCA	CAGGCATCTG
	TATCTTTTGG	ATTCTTTGAC	CTTCCCCATT	TATCCCAGGC	ATTTTCTTAA	AACGTGTGCT	TTGCTCCTCC
55	TGCATCCTCC	CCTTTCATGC	CCTCACCTAC	CCCACATCTT	CCCTAAAAAA	AGCAAGCCCA	ACTCAAAGAC
	CAGTTCCCTC	ATGGAATCAT	AGTGGATCTG	CCAAGGGAGG	GGATGCCCAG	TCTCTGTGTC	TTCAAAAGAC
	TCCCTTCTTC	TGGTAAGGT	TTCTTATGCA	ATTATGAATC	TTCTCACCTT	TTGATGTATT	AAGAAAGTAT
	GGAGAAATAT	ATCTCTATC	AAATTTTCAT	GCCTTCAATA	ATTCTAAATT	CATCAGTCAG	TGTTTTTCCA
	TCCTTTACTG	TGATGATGCC	CTTTCT				

[illegible]

CCTGGACACT GGTCTCATCT GGTGAAAGAC TGTGGGTAAT GGAAGCATT CTGTGGGGTG GTGGCAGGAC
 ATGTGCATGG TGACGCAGGT CATCAGCAGC AAGTGAGAGC TGCCTCTTAC TTTCTAAAGG TGACATAGCA
 AGTATACAAA AAAAATAAAA ATATTAATTT AGGCAGAGCA CATAAAGGCT TTATTTTCATA TTCCATTTCT
 CTGTATGCTT TCTTACCAG GAAGAAATAG TTTTAGTGTC AGGAATGAAT GAGTCTGCC CTCAATTTCCA
 5 GCCTGCTCAG CACA CAAGGA AACAAAGCCC TGACAATCAG AGTGACTCCC TGGTGACTAA GCTCCAGTCC
 TGGATGCATA TTTC TTTAGC AGTCTGACA GCATCTGACC CAGCCCTCTC TTTGCATACC CCACCAGAAC
 CTTCCTTTTT TTTT TTTTC TTTGAGACTG AGTCTTGCTC TGTCGGAAGC GATTCCCGTG CCTCAGCCTC
 CCAAATACCT GGAATTATAG GCGTAAGCCA TCATGCCTGG CTAATTTTTG TATTTTTCAT GGAGATGGGG
 TTTTGCCATG TTGGTCAAAT TGGTCTCACA CTCCTGACCT CATGTGATCC ACCTGCCTCA GCCTCCCAAA
 10 GTGCTGGGAT GACAGGTGTA AGCCACCATG CTAGGCTCAG AAATTTCTTT TTATAAAAAA GTCATTAAGG
 ATCTTGCGTG CACAATATCG TTACCAGCTT CACTTAAATC CACCTCTGGC CTGCCAGGAA TCAGGGTTCT
 TCAGAACCTG ACAATTTAAA TGAAGAGGTC AGGCAGGTCA TGAGGAAAGC CTCATTGTCC CTCAATGTCT
 GTCAGTCTG CACCCTGAG ACATCACAGA CATGGACACT GGGGCTGCT TGTTTCTCAA ACTGCCCTTA
 GATCGAAAGA GGGAGGAACC AGGATGAATG CCACTCATTT TCCCAAGAAA GGCCCTCTCC TGAGTGCCCG
 15 GGATGGGGCT CTGTCCATTG CCTGGGGCCG CCAATTGCTA CTCTGGGTTA CGGAAGAAGG ACAGGGTCTC
 GAGAGACACC AGAGACCTCA CACAGCCCTG AAAACATGGG GCTCCTTCAT AAGTGTTCCT CATCACCAAC
 AGGGAGACCA CGTGAGGGCC TTGCAGCCCT ACTCGGTGCT TCTCCACCAA ATCCCAAGGG CAGTGACGCT
 GACGTCTGTG GAAAGCAGAG AAAGCCCTGG CTCCCAAGC CCTGAAGTCC TGTGGAGCTG ACATTCCTCG
 AGTGACGGTG TGAATGGAAG GAACCTAAGT GCGGGTGTTA GGCCACCTCC TGGCCAGGC CTGGGTGAAC
 20 TCTAGGGGA CACA TGTAGT CACAATCCCA TCCTCCATT CTCCTTCTCA GAGGAAGGAA GTGGGCATCC
 ATCTGCCTCA TCTCTCTCC GTGGGAAGA TGGGGAGTTT CAGGGGAAC TCCACATAAA TTTCACCAGC
 TCAGATCTCC TGTGAGGATG GGGCCACCA TGCTCCCGT GCTGCCAGAG GCCCTGAGCC CCTCCAGGGT
 CCCTGGGTTT GAGCAGCCC TGTATCATCC CCAGGAGCTG AATGTCCGAA CAATGGATAG AATTAGATGG
 AAAGAGCTCT CAAITGGGCC TGAGACTGTC CCAGATACT CAGGAAAAAC AGGACGTGCG ACAGAGTGGG
 25 CAGCAGGTGA GTGGCAGGTT ATAGGTCTG AGTTTGAGTT TGTTCTCAG TGAGACAGAC CCAGCCCTC
 ACTCCATTCA CACACTGGGT TTAAATGGT GCAAGATAGG AGGAATTTT TGGTCCCAAG AGCAGGAGGA
 AGGGATTTT TGGGTTTCC TGAGTCCAGA TTTGCATAAG ATCTCTGAG TGTGCATTG TCTTTGAGGA
 CCATTCTCTG ACTCACCAG TAAGTGGCTG AATTCTAAC TCTGTAATGA GCATTGCACC CAATACCAGT
 TCTGAACCT ACCTGGTGAC CAGGGACCAG GACCTTTATA AGGTGGAAG CTTGATGTCC TCCCAGACT
 30 CAGCTCCTGG TGAAGCTCCC AGCCATCAGC CATGAGGGT TGTATCTCC TCTTCTCGTT CCTCTTCATA
 TTCCTGATGC CTCTCCAGG TGAGATGGGC CAGGGAATA GGAGGGTTG CCAAATGGAA GAATGGCGTA
 GAAGTTCTCT GTCCTCTCT ATTCCCTCC ACCTATCTCT CCCTCATCCC TCTCTCTCT TCTCTCTCT
 GTGTGTCCCC TCCATCTTT TCTCTGCTT CTCTCTCTT TCCCTCTCT CTCTTTTTT CTGTCTTTCT
 TTTTCTCTCT TCCCTAGAGC ATGTCTTTCT TTCTTTCTT TTCTTTCTT CTACCCACAC TTTTAGACTG
 35 AGTAGACTGA ATGCCTATT TAATGGAAC AAGCTATGCT TCCTTCAATA GAAAAGGAGT TTGAGAACCC
 AATGGACAAC TCACTCGTTC TTCTAAGCCA ATATGAAGGA GCCCAGTAGT TTGTAAATAT CATCTCTCA
 CTGCTTTCCA TGCTACAAC GCTGAGACTA TGGTTGAAAC CTGTTAGGTG ACTTTTTAAA TAAAAGGCAG
 AAATTTTGAT TTTATCTAAA GAAAGTAGTA TAGAATGTCA TTTTCTAAAT TTTTATATTT AAAGAGTAGA
 TACTGCAACC TAGA GAATTC CAGATAATCT TAAGGCCAG CCTATACTGT GAGAACTACT GCAGCAGACA
 40 CTCTGCCCC AGGA CTTTTC TGATCAGAGG CCCTGAGAAC AGTCCCTGCC ACTAGGCCAC TGCAGGTCA
 CAGGACAGGG ACA GCCCATT GAAACCAACT TTAAACCTG GATGCCAAC CTTCATTTTC TCCTTGATAT
 TATGAAAAAT AAATAAAAA CATGAAAGGA TAAAGAGGG AGAGTGGAAG GGAAGGATGG AGAAAGGGAA
 AAAGAAAAAT TGAGAGTAAA TCCTAAAAA ATTAATCTAA TAGATATCAT CTTGTGAAT CCAATTTTA
 CCAATCTTAT TTATAGTCC TGGGTTTTGT GAGAACAATG GGGTTCTGAG AGGCACCAGA GACCTCATAT
 45 TTTCCAAAAC CTAGACAGT ATAATGAAG AAGGAGGGAA GGAGGGAGGG AGGGAGGGAA GGAGGGAAGG
 AGGGAGGGAG GGAGGGAAC AAAAGAAGA ATGAGGTTGA AACCAGGACT TAGATATTAG AAACAAGCCA
 TTACAAAATT TATTTCTATG GTTAATTGTG GTTTTCAACT GTAAGTTACT TGGTGTAAAT TTCCTATTAA
 ACAATTCAG TAACTTGAT CTTTTTATC CCATCTCAGA TCAAATACTT AACAGACTAA ATGATTTGAA
 AAAGCAAAAG TTTACTGGCT TGTGTGTGTT AAAATGGAGG TATGGTGGCT TTGATATTAT CTTCTGTGG
 50 TGGAGCTGAA TTCA CAAGAG ATCGTTGCTG AGCTCCTGCC AGACCCACC TGGAGGCCCC AGTCACTCAG
 GAGAGATCAG GGTCTTTCAC AATCAGGTTT TACAAAAATA AACATCCCC AAACCACAGC AGTGCCAGTT
 TCCATGTCAG AAATTTAGAT CCAATGACT GACTCGCGTC TCATTATCAT GATGGAAAAG CCCAGGCTTG
 AGAAAGAAGC CCGTGCAGG TTTACTCAAG GCGATACTGA CACAGGGTTT GTGTTTTTCC AACATGAGTT
 TTGAGTTCTT ACACGCTGTT TGCTCTTTT GTGTGTTTT TCCCTGTAG GTGTTTTTGG TGGTATAGGC
 55 GATCCTGTTA CCTGCCTTAA GAGTGGAGCC ATATGTCATC CAGTCTTTG CCCTAGAAGG TATAACAAA
 TTGGCACCTG TGGTCTCCCT GGAACAAAAT GCTGCAAAAA GCCATGAGGA GGCCAAGAAG CTGCTGTGGC
 TGATGCGGAT TCACAAAGGG CTCCCTCATC AGAGACGTGC GACATGTAAA CCAATTTAA CTATGGTGT
 CAAAGATACG CAATCTTTAT CCTAGTAATT GTGGTCAATT GGTGATGTT GTTGGGCCAG GGCATCTCTA
 ATATCCTTGA AACA CTTTT TCTGCTCTCC AGGAAGGGGT CAGGGCTGCC ACAGCGGGGC TTGGAGTGC-3'
 60 (FRAG. NO:) (SEQ. ID NO:3011)
 5'-GAATTCACAT TTCTCACCTT TTGATGTATT AAGAAAGTAT GGAGAAATAT ATCCTCTATC AAATTTTCAT
 GCCTTCAATA ATTCTAATT CATCAGTCAG TGTTTTCCA TCCTTTACTG TGATGATGCC CTTTCTCCA

004040 " 0294560
 004040 " 0294560

[illegible]

[illegible]

1. <i>Chlorophyll a</i>	
1970	1.00
1971	1.00
1972	1.00
1973	1.00
1974	1.00
1975	1.00
1976	1.00
1977	1.00
1978	1.00
1979	1.00
1980	1.00
1981	1.00
1982	1.00
1983	1.00
1984	1.00
1985	1.00
1986	1.00
1987	1.00
1988	1.00
1989	1.00
1990	1.00
1991	1.00
1992	1.00
1993	1.00
1994	1.00
1995	1.00
1996	1.00
1997	1.00
1998	1.00
1999	1.00
2000	1.00
2001	1.00
2002	1.00
2003	1.00
2004	1.00
2005	1.00
2006	1.00
2007	1.00
2008	1.00
2009	1.00
2010	1.00
2011	1.00
2012	1.00
2013	1.00
2014	1.00
2015	1.00
2016	1.00
2017	1.00
2018	1.00
2019	1.00
2020	1.00
2021	1.00
2022	1.00
2023	1.00
2024	1.00
2025	1.00
2026	1.00
2027	1.00
2028	1.00
2029	1.00
2030	1.00
2031	1.00
2032	1.00
2033	1.00
2034	1.00
2035	1.00
2036	1.00
2037	1.00
2038	1.00
2039	1.00
2040	1.00
2041	1.00
2042	1.00
2043	1.00
2044	1.00
2045	1.00
2046	1.00
2047	1.00
2048	1.00
2049	1.00
2050	1.00
2051	1.00
2052	1.00
2053	1.00
2054	1.00
2055	1.00
2056	1.00
2057	1.00
2058	1.00
2059	1.00
2060	1.00
2061	1.00
2062	1.00
2063	1.00
2064	1.00
2065	1.00
2066	1.00
2067	1.00
2068	1.00
2069	1.00
2070	1.00
2071	1.00
2072	1.00
2073	1.00
2074	1.00
2075	1.00
2076	1.00
2077	1.00
2078	1.00
2079	1.00
2080	1.00
2081	1.00
2082	1.00
2083	1.00
2084	1.00
2085	1.00
2086	1.00
2087	1.00
2088	1.00
2089	1.00
2090	1.00
2091	1.00
2092	1.00
2093	1.00
2094	1.00
2095	1.00
2096	1.00
2097	1.00
2098	1.00
2099	1.00
2100	1.00
2101	1.00
2102	1.00
2103	1.00
2104	1.00
2105	1.00
2106	1.00
2107	1.00
2108	1.00
2109	1.00
2110	1.00
2111	1.00
2112	1.00
2113	1.00
2114	1.00
2115	1.00
2116	1.00
2117	1.00
2118	1.00
2119	1.00

AAACGCAAAA TCAAATTTTT GAACAATATA-3' (FRAG. NO:) (SEQ. ID NO:3012)

Human Defensin 3 Nucleic Acid and Antisense Oligonucleotide Fragments

5'-CGCTGCBBTC TGCICCGGGG CTGCBGCBBC CTCBTCBGCTC TTGCCTGGBGTG GCTCBGCCTGG GCCTGCBGGG
CCBCCBGGGB BTGCICBGBBG GBTGGCBGGG TCCTCBTGGC TGGGGTBCCT GGBGGBGGGB GBGCBGGGG
5 TCCTCBTGGC TGGGGTCCCT CTCTCCCGTC CT CCTACCTGCT TATAGAAGAC CTGGGACAGA GGACTGCTGT
CTGCCCTCTC TGGTACCCCT GCCTAGCTAG AGGATCTGTG ACCCCAGCCA TGAGGACCCT CGCCATCCTT
GCTGCCATTC TCCTGCTGGC CCTGCAGGCC CAGGCTGAGC CACTCCAGGC AAGAGCTGAT GAGGTTGCTG
CAGCCCCGGA GCACATTGCA GCGGACATCC CAGAAGTGGT TGTTCCTT GCATGGGACG AAAGCTTGGC
TCCAAAGCAT CCAGGCTCAA GGAAAAACAT GGACTGCTAT TGCAGAATAC CAGCGTGCAT TGCAGGAGAA
10 CGTCGCTATG GAACCTGCAT CTACCAGGGA AGACTCTGGG CATTCTGCTG CTGAGCTTGC AGAAAAAGAA
AAATGAGCTC AAAAATTGCT TTGAGAGCTA CAGGGAATTG CTATTACTCC TGTACCTTCT GCTCAATTC CTTT-3'
(FRAG. NO:1804) (SEQ. ID NO:3013)

5'-CCTACCTTGC TATAGAAGAC CTGGGACAGA GGACTGCTGT CTGCCCTCTC TGGTACCCCT GCCTAGCTAG
AGGATCTGTG ACCCCAGCCA TGAGGACCCT CGCCATCCTT GCTGCCATTC TCCTGCTGGC CCTGCAGGCC
15 CAGGCTGAGC CACTCCAGGC AAGAGCTGAT GAGGTTGCTG CAGCCCCGGA GCAGATTGCA GCGGACATCC
CAGAAGTGGT TGTTCCTT GCATGGGACG AAAGCTTGGC TCCAAAGCAT CCAGGCTCAA GGAAAAACAT
GGACTGCTAT TGCAGAATAC CAGCGTGCAT TGCAGGAGAA CGTCGCTATG GAACCTGCAT CTACCAGGGA
AGACTCTGGG CATCTGCTG CTGAGCTTGC AGAAAAAGAA AAATGAGCTC AAAAATTGCT TTGAGAGCTA
CAGGGAATTG CTATTACTCC TGTACCTTCT GCTCAATTC CTTT-3' (FRAG. NO:) (SEQ. ID NO:2478)

20 5'-GAATTCCTGT TAAAGCCCTGT TACAGGGGCT GCACCCAGAA TACAACCTGA CCTGTGTCCA AGGCCGGCAA
CTCAACCCCTT AGATATTGAA TGGGTCCCAT GGCACCAATG CTTAAACACC AGCAGCCCTC ACAACCCAG
ATCGTGTITT AAGGATGAGG AGGTAGTTCT CTGGATGCAC AGGCTTCAAT CCAAATGGGC TCATGACGCC
GCAGCACACA CCCAGTCTGC AGCCTGAAGA GTTGGAGCAT TGCATTACA GAAAGCATCC AGACATGATC
ATGGGCTCAG GGAATACACCT GTTCTCCGAT GTGTACCAGT GAAGGATGGA AACTCCTATG CCTCCAGAA
25 AGCACCCTC AAGCTTTTGC TGAATGCTTC TCTGAAGGCC CACAAGGCTG AGAGGCTGTG CAACACCAGC
AGTAAAGTGA ATGCCAGAC TCCCACCTCC TTTCTGGGT GGCCATCTGG AAAGGCCACT CCCACCTGA
TGGCTAATGC CTCAGACAG TTCTTGGCCC AGATGATCCT AGACAATTGT TTAAGCTTAA ACTGTTTATT
GGCAAGCAA ACAGGTGATA GTACCTCTGG GGAACCATAT GCCGCTGTA CATCCAGATC TCAGGAGAAC
CCAAAAATGT CTGTCCACA TAGCAACAGA AGCCAGGTA GCACTCAGTC TCACCTGGGT GTTCTCCAAC
30 ATCCCAGCTC AGCCAAATGG CTTTCATTAG TTTTATGGT TAGACCCAG GTCTCGGGA CACTGCTTAA
GAAACACATT CCAATCCTC CTCTGTGTGC AGGTGGCATT CCTATCCCAA TCTCTTGCA GGGCGTATAC
TGTGATACGC AGCCAGGCTG TCCCAGAGGC CTTAAATATT CCCTTGGTGC AGGTAGTTCA GCTTAGCCAC
AGCCAATGCA TCACAGGGTC AACTGTGTTA GGAGCCATTG AGAATCCATA GTTGGTTGCT GCCTGGGCT
GGCCAGGGCT GACCAAGGTA GATGAGAGGT TCCTCTGTGG AGTTCTACTT TAACCTCACC TTCCCACCAA
35 ATTTCTCAAC TGTCCTTGCC ACCACAATTA TTAAATGGAC CCAACAGAAA GTAACCCCGT AAATTAGGAC
ACCTCATCCC AAAAGACTT TAAATAGGGG AAGTCCACTT GTGCACGGCT GTCCTTGCT ATAGAAGACC
TGGGACAGAG GAGTCTGTG TGCCCTCTCT GGTCACCTG CCTAGCTAGA GGATCTGTA TAGACTACAAA
ACTTAACTT TACA CTGAGT TTTCATCAT TGAAGCTATG CTCCAATCTG ACCTCTGACT GTGGGGCCGC
CCCAGAGGGA CCCAGCGGT GAATCCCTGC TAGGAACGTC TGTCCGGACC TCTGGTGACT GCTGGGACG
40 ATGGCTTCCA GCTA ACTTAA TAGAGAACT CAAGCAGTTT CTTCTAAAT ACACATGTCA CATGTCCTGG
TTGACATGTC CAGTAAAGAG ACTATCACAG GTCTTTGGAA CATTCTTTT AGAGAAACCT ATTTAGGTCC
TTGGTCTGTT TTTCAATCAG GTTGTGTGAT TTTTGCTATT GAGTTGTGG AATTCTTAT GTATTAGAT
ATTTGCCCTT TCTCCATGT AGGTTTGTGA AATATTTCT CTCATTTCT GGGTTATCTT TTCCTCGGT
TGATTGTTTC CTTTCTGTG CAGATGCTTT AGCGTTAAAT GAAGCCACAC TTGTCTATT TCCCTTTTAT
45 TGCCTGTGCC TTTGTGTGTA TAGCCAAGAA ATCATTACCT ACATCAATGT CAAAAGCTT ATCCTTCTAT
ACACTTCTAG TAGTTTATGG TTTCAGTTGT TACATTTAGG TTTTCAATTC ATTCTGAGTT GATGTTCTTA
CATGGTGTGA GATAAAGATT TAAATACATA CATATATAAA ATCATGAGGT AGTGTACACT ATAAATATAC
AATTGTTAAT GTTACTCAA GTCTAAGTAG AGGTGGAAT AATAAACTT CTTTTTTTAA CTTAAACCAC
TCTGTGTAC TGACCTGATT TCACCTTTAG CCTGATAAAA TCATTGTCCT CTCCACCCTG ATTCCTACAG
50 GAGACTACTC ACCCATAAC CTCAAAAAC TCTTCATGAG GATGGTAAGT CACCTGAATC CTGAAGTGAA
TTACTCGCTA TTCAATTGGA ACTCATATG GACACCAGAA TCTAGACCTC CAGAGAACAG CAGGACCAT
CTTCAGAAAA TAAGAACAT TTGTTCCCTG AGCCTGTGTA ATCAAAGTGC AATTTCTATT CTTTTTGGAA
TGTTAAAAAG TGAATCATAA TATTTAAGCA GGTGAACCCA CGAGTAACAT AGCAGGGTCT TTCTGTGAT
TATTAGCTCC AACCTAGCAC AGACATTAAA GGTACAGATG TATACTAGCA TGAAACTGGG AGAACAGGAG
55 CATTGAGCA ACCCTGAGAC CAATGGGCT CTCTTATAAA ATGCACACCT CCTCTACTG AGATTGAGGA
AGGTTTCTTG TCTCCGAGCC TTCTCCAGT AGAGCTATAA ATCCAGGCTG GCTCCTCCCT CCCACACAG
CTGCTCTGC TCTCCTCTCT CCAGGTGACC CCAGCCATGA GGACCCTCGC CATCCTTGCT GCCATTCTCC
TGGTGGCCCT GCACGCCAG GCTGAGCCAC TCCAGGCAAG AGCTGATGAG GTTGCTGCAG CCCCGAGCA
GATTGCAGC GACATCCAG AAGTGTTGT TTCCCTTGA TGGGACGAA GCTTGGCTCC AAAGCATCCA
60 GGTGAGAGAG GCAAGCATGC AGAGCTGCTA AGTCTAGAG GAAGGACGG AGAGAGGTTC CAGAGTTGGG

- TCTCAGCAGT CTAIGTCACT GAGGTGGCTT CACTTAGAAT CTCTGGGCAT TGATTTTCTC ATCTAGAAAT
 TGAACAGAGA GCCAAATAAA CCTGAGAAAC TTTATTTCTC CAAAGACTTG ATTCCAAGAA ACATCTGTGA
 AATTCATAA GTTTAAGATA TGAAGAGACA GACTAGTTAT TTCTGGATCT AAACAAGTAG ACTTAGTTGT
 AAAGAGAACA TTTTACTCTA TCTACAGAAG AGCTTTTAAA AACTGCAGCC AAGCCTGAGG GTAAGTTCAG
 5 GTGTGTGTGT GATGGGGCAG GAATGCAAAA ATGAGAGCAA AGGAGAATGA GTCTCAAATT CTGTGTGACA
 AGCACTGCTC TGCC TGTTTA TTCCTATCGA CTGAGGTTGT TCGTGCTACC GGCTGCAATG CAGCCAGCAT
 CACCTGTGAG CTAGCATGTG ACTTCCCGA GATTCTTTT CTTACCCACT GCTAACTCCA TACTCAATTT
 CTCATGCTCT CCCTGTCCA GGCTCAAGGA AAAACATGGA CTGCTATTGC AGAATACCAG CGTGCATTGC
 AGGAGAACGT CGCTATGGAA CCTGCATCTA CCAGGGAAGA CTCTGGGCAT TCTGCTGCTG AGCTTGCGA
 10 AAAAGAAAAA TGAAGTCAAA ATTTGCTTTG AGAGCTACAG GGAATTGCTA TTACTCCTGT ACCTTCTGCT
 CAATTTCTTT TCCTCATCTC AAATAAATGC CTGTGTACAA GATTCTGTG TTTCCACCTC TTTAATGTGT
 GATATGTGTC TGTGTCAAGA CACTGGGAT ACACGTACCA AAACGCAAAA TCAAATTTT GAACAATATA-3'
 (FRAG. NO:) (SEQ. ID NO:2477)
 5'-GGCBGCBGG-3' (FRAG. NO:1805) (SEQ. ID NO:1818)
 15 5'-GG CTG GGG-3' (FRAG. NO:1806) (SEQ. ID NO:1819)
 5'-GGGGTCBCC-3' (FRAG. NO:1807) (SEQ. ID NO:1820)
 5'-GGG TCC TCB TGG CTG GGG TC-3' (FRAG. NO:1216) (SEQ. ID NO:1225)
 5'-CCT CTC TCC CGT CTT-3' (FRAG. NO:1217) (SEQ. ID NO:1226)
 5'-CGCTGCBBTC TGC TCCGGGG CTGCBGCBBC CTCBTCBGCTC TTGCCTGGBGTG GCTCBGCCTGG GCCTGCBGGG
 20 CCBCCBGGGB BTGGCBGCBGG TCCTCBTGGC TGGGGTCBCCT GGBGGBGGGB GBGCBGG-3'
 (FRAG. NO:1808) (SEQ. ID NO:1821)

Human Macrophage Inflammatory Protein-1-alpha/RANTES Receptor Nucleic Acid and Antisense Oligonucleotide Fragments

- 5'-GTCTTTGTTT CTGCGCTCGT GCCCBTCCC GGCTTCTCTC TGGTCCGTC CTCTGTGGTG TTTGGCCCTG
 25 CTTCCTTTTG CCTGTTGAGG GGGCAGCAGT TGGGCCCAA AGGCCCTCTC GTTCACCTTC TGGCAGGAAGTT
 GCATCCCCATA GTCAAACCTCT GTGGTCGTGT CATAGTCTC TGTGGTGTTC GGAGTTTCCA TCCCGGCTTC
 TCTCTGTTTC CAACGGAGB GGGGGCBGCB GTTGGGCCCC BBBGGCCCTC TCGTTCBCCT TCTGGCBGCG
 BGTTGCBTCC CCBTGTGCB BCTCTGTGGT CGTGTCTBG TCCTCTGTGG TGTTTGGBT TTCCBTCCCG
 GCTTCTCTCT GGTTCBGG GB-3' (FRAG. NO:1809) (SEQ. ID NO:1822)
 30 5'-GGGCC CC-3' (FRAG. NO:1810) (SEQ. ID NO:1823)
 5'-GGGGCBGC-3' (FRAG. NO:1811) (SEQ. ID NO:1824)
 5'-CCGGCTTC-3' (FRAG. NO:1812) (SEQ. ID NO:1825)
 5'-GTC TTT GTT TCT GGG CTC GTG CC-3' (FRAG. NO:1218) (SEQ. ID NO:1227)
 5'-CCB TCC CGG CTT CTC TCT GGT TCC-3' (FRAG. NO:1219) (SEQ. ID NO:1228)
 35 5'-GTC CTCTGT GGT CTT TGG-3' (FRAG. NO:1220) (SEQ. ID NO:1229)
 5'-CCC TGC TTC CTT TGG CTT-3' (FRAG. NO:1221) (SEQ. ID NO:1230)
 5'-GAGGGGGCAG CAGTTGGGCC CCAAAGGCC TCTCGTTCAC CTTCTGGCAC GGAGTTGCAT CCCCATAGTC
 AAACCTCTGTG GTCGT-3' (FRAG. NO:1222) (SEQ. ID NO:1231)
 5'-GTATAGTCCCTCTC TGGTGTGAGTTCCATCCCGCTTCTCTGTTCCAAGGGA-3' (FRAG. NO:1223) (SEQ. ID
 40 NO:1232)
 5'-GBGGGGCBG CBTTTGGGCC CBBBGGGCC TCTCGTTCBC CTTCTGGCBC GGBGTTGCBT CCCCBTGTG
 BBBCTCTGTG GTCGTG-3' (FRAG. NO:1224) (SEQ. ID NO:1233)
 5'-TCBTGTCTCTGT GTGTTTGGBTTCBTCCCGCTTCTCTGTTCCBGGGB-3' (FRAG. NO:1225) (SEQ. ID
 NO:1234)

RANTES Antisense Oligonucleotide Fragments

- 5'-GGGCBGCGG CBTTGGGCGG GCBTGTBGG CBBGCBGCB GGGTGTGGTG TCCBGGBBT BTGGGGBGGC
 BGBTGCBGG GCGCBGBGG CBGTGCBBT GBGGTBGCB GCGBGGCGTG CCGCGGBGBC CTTCTGGTB
 CCTGTGGBG GCGTGCGB GGGGGTGTGG TGTCCGCTTG GCGGTTCTTT CCGGTGTTT TTCTCTGGGT
 TGGCCTGCTG CTCGTCTGGT CGTCCGCTC CCGGTTCTGT CTCGCTGTG CGCCCTTCC TTCCTGTGCG
 50 TGTTCTCTCC TTCTTGCCT CT-3' (FRAG. NO: 1813) (SEQ. ID NO: 1826)
 5'-GGGTTGGC-3' (FRAG. NO: 1814) (SEQ. ID NO: 1827)
 5'-CGGG CBG-3' (FRAG. NO: 1815) (SEQ. ID NO: 1828)
 5'-CCGGGTTTCG-3' (FRAG. NO: 1816) (SEQ. ID NO: 1829)
 5'-GGGTGTGGTG-3' (FRAG. NO: 1817) (SEQ. ID NO: 1830)
 55 5'-GGGCBGCGG CBTTGGGCGG GCBTGTBGG CBBGCBGCB GGGTGTGGTG TCCBGGBBT BTGGGGBGGC
 BGBTGCBGG GCGC-3' (FRAG. NO:1226) (SEQ. ID NO:1235)
 5'-BGBGGGCBGTB GCBTGTBGG TBGCBGCBG GCGTGCCGCG GBGBCCTCB TGGTBCCTGT GGBGBGGCTG
 TCGBGG-3' (FRAG. NO:1227) (SEQ. ID NO:1236)
 5'-GGGTGTGGTGTCCGCTTGGCGGTTCTTTCGGGTGTTTCTCTCTGGGTTGGCCTGCTGCTCGTGGTC-3' (FRAG.
 60 NO:1228) (SEQ. ID NO:1237)

5'-GCTCCGCTCCCGGG(TTCGTTCTCGCTCTGTGCCCCCTTCCTTCCTTGTCGTGTTCCCTCCCTTCCTTGCCTCT-3' (FRAG. NO:1229) (SEQ. ID NO:1238)

5'-GGGTGTGGTGTCCG-3' (FRAG. NO:1230) (SEQ. ID NO:1239)

5'-CTTGGCGGTTCTTTCGGGTG-3' (FRAG. NO:1231) (SEQ. ID NO:1240)

5 5'-TTTCTTCTCTGGGTGGC-3' (FRAG. NO:1232) (SEQ. ID NO:1241)

5'-CTGCTGCTCGTCGIGGTC-3' (FRAG. NO:1233) (SEO. ID NO:1242)

5'-GCTCCGCTCCCGGCTTC-3' (FRAG. NO:1234) (SEQ. ID NO:1243)

5'-GTCTCGCTCTGTCGCCC-3' (FRAG. NO:1235) (SEQ. ID NO:1244)

5'-CTTCCTTCCTTGTC 3' (FRAG. NO:1236) (SEO. ID NO:1245)

10 5'-GTGTTCCCTCCCTTCCTTGCCTCT-3' (FRAG. NO:1237) (SEO. ID NO:1246)

5'-GGGCBCGGGG CB β TGGGCGG GCB β TGTBGG CBBBGCBCB GGGTGTGGTG TCCBGGBBT BTGGGGBGGC
BGBTGCBGGB GCG(CBGGGG CBGTBGCBBT BGGBTGBCB GCBGGCGTG CCGCGGBGBC CTTCBTGGTB
CCTGTGGBGB GGCTGTCGBB GG-3' (FRAG. NO:1818) (SEQ. ID NO:1831)

Human Muscarinic Acetylcholine Receptor HM1* Nucleic Acid and Antisense Oligonucleotide Fragments

15 5'-GCTGCCCGGC GGAGTGTCG CTGGCGCTC CCGTGCTCGG TTCTGTGTCT CCCGTCCCC CTGCTGGC
GTCTCGGGCC TTCGTCTCT TCCTTTCTT CCTCCGCTC CGTGGGGGCT GCTGGGTGGG GGCCTGTGCCT
CGGGGTCCC GGGCITCTGG CCCTGCCGT TCATGGTGGC TAGGTGGGGC GTTCBTGGTG GCTBGGTGGG GC-
3'(FRAG. NO:1819)(SEQ. ID NO: 1832)

5'-GGTGGGGC-3' (FRAG. NO:1820) (SEO. ID NO: 1833)

20 5'-GCCCCGGCGGGG-3' FRAG. NO:1821) (SEO. ID NO: 1834)

5'-CGG GGC TTC TGG CCC-3' (FRAG. NO:1822) (SEQ. ID NO: 1835)

5'-GTT CBT GGT GGC TBG GTG GGG C-3' (FRAG. NO:1238) (SEO. ID NO:1247)

5'-GCT GCC CGG CGG GGT GTG CGC TTG GC-3' (FRAG. NO:1239) (SEO. ID NO:1248)

5'-GCT CCC GTG CTC GGT TCT CTG TCT CCC GGT-3' (FRAG. NO:1240) (SEQ. ID NO:1249)

25 5'-CCC CCT TTG CCT GGC GTC TCG G-3' (FRAG. NO:1241) (SEO. ID NO:1250)

5'-GCC TTC GTC CTC 'TTC CTC TTC TTC CTT CC-3' (FRAG. NO:1242) (SEO. ID NO:1251)

5'-GCT CCG TGG GGG CTG CTT GGT GGG GGC CTG TGC CTC GGG GTC C-3' (FRAG. NO:1243) (SEO. ID NO:1252)

5'-CGG GGC TTC TGG CCC TTG CC-3' (FRAG. NO:1244) (SEQ. ID NO:1253)

5'-GTT CAT GGT GGC TAG GTG GGG C-3' (FRAG. NO: 1245) (SEO. ID NO:1254)

30 Human Muscarinic Acetylcholine Receptor HM3* Nucleic Acid and Antisense Oligonucleotide Fragments

5'-GGG GTG GGT BGG CCG TGT CTG GGGGTT GGC CBT GTT GGT TGC CTCT TGG TGC GCC GGG CGCG TCT
TGG CTT TCT TCT CCT TCG GGC CCT CGG GCC GGT GCT TGT GGGCT CCT CCC GGG CGG CCT CCC CGG GCG
GGG GCT TCT TGGC3 CTG GCG GGG GGG CCT CCGTCT CTG TGG CTG GGC GTT CCT TGG TGT TCT GGG
TGGTGG CGG GCG CTG TGG CTT CTG TGGGGG CCC GCG GCT GCB GGG GTTG CCT GTC TGC TTC GTCCTT TGC
GCT CCC GGG CGG CCGGG GTG GCT AGG CGT CTG GGGGTT GGC CAT GTT GGT TGC CGGG CCC GCG GCT
GCA GGG G-3' (FRAG. NO:1823) (SEO. ID NO:1836)

5'-CCC GGG CGG-3' (FRAG. NO:1824) (SEQ. ID NO:1837)

5'-G GCG GGG GGG CC-3' (FRAG. NO:1825) (SEO. ID NO:1838)

5'-CCC GGG CCG CC-3' (FRAG. NO: 1826) (SEQ. ID NO: 1839)

40 5'-GG CCG TGT-3' (FRAG. NO:1827) (SEQ. ID NO:1840)

5'-GGG GTG GGT BGG CCG TGT CTG GGG-3' (FRAG. NO:1246) (SEQ. ID NO:1255)

5'-GTT GGC CBT GTT GGT TGC C-3' (FRAG. NO:1247) (SEQ. ID NO:1256)

5'-TCT TGG TGG TGC GCC GGG C-3' (FRAG. NO:1248) (SEQ. ID NO:1257)

5'-GCG TCT TGG CT↓ TCT TCT CCT TCG GGC CCT CGG GCC GGT GCT TGT GG-3'(FRAG.NO:1249)(SEQ.ID NO:1258)

5'-GCT CCT CCC GGG CGG CCT CCC CGG GCG GGG GCT TCT TG-3' (FRAG. NO:1250) (SEO.ID NO:1259)

5'-GCG CTG GCG GGG GGG CCT CCT CC-3' (FRAG. NO:1251) (SEO. ID NO:1260)

5'-GCT CTG TGG CTG GGC GTT CCT TGG TGT TCT GGG TGG C-3' (FRAG. NO:1252) (SEO. ID NO:1261)

5'-TGG CGG GCG TGG TGG CCT CTG TGG TGG-3' (FRAG. NO:1253) (SEQ. ID NO:1262)

50 5'-GGG CCC GCG GCT GCB GGG G-3' (FRAG. NO:1254) (SEQ. ID NO:1263)

5'-TTG CCT GTC TGC TTC GTC-3' (FRAG. NO:1255) (SEQ. ID NO:1264)

5'-CTT TGC GCT CCC GGG CCG CC-3' (FRAG. NO:1256) (SEQ. ID NO:1265)

5'-GGG GTG GGT AGC CCG TGT CTG GGG-3' (FRAG. NO:1257) (SEO. ID NO:1266)

5'-GTT GGC CAT GTT GGT TGC C-3' (FRAG. NO:1258) (SEQ. ID NO:1267)

55 5'-GGG CCC GCG GCT GCA GGG G-3' (FRAG. NO:1259) (SEO. ID NO:1268)

Human Fibronectin* Antisense Oligonucleotide Fragments

5'-CGG TTT CCT TTG CGG TC TTG GCC CGG GCT CCG GGT G CCC GCC CGC CCG CCG GCC GCC GC CCC GCC
GGG CTG TCC CCG CCG CGC CCC GGC CCG GGG CGC GGG GG CGG CCC TCC CGC CCC TCT GG GCC GGC GCG
GGC GTC GG CCG CTG GCG CCT GGG GTT CCC TCT CCT CCC CCT GTG C GCC TGC CTC TTG CTC TTCTGC GTC

- CGC TGC CTT CTC CTT CTC TCC TCG GCC GTT GCC TGT GC TGT CCG TCC TGT CGC CCT TCC GTG GTG C TGT
TGT CTC TTC TGC CCT C GGT GTG CTG GTG CTG GTG GTG CCT CTG CCC GTG CTC GCCCTG CCT GGG CTG
GCC TCT TCG GGT GTG GCT TTG GGG CTC TCT TGG TTT CCC TTT CTT CTC GTG GTG CCT CTC CTC CCT GGC
TTG GTC GT TGT CTG GGG TGG TGC TCC TCT CCC TTT CCC TGC TGG CCG TTT GT CCT GTT TTC TGT CTT
5 CCT CT TTC CTC CTC TTT CTC CGT TTG GCT TGC TGC TTG CGG GGC TGT CTC C CTT GCC CCT GTG GGC TTT
CCC TGG TCC GGT CTT CTC CTT GGG GGT C GCC CTT CTT GGT GGG CTGGCT CGT CTG TCT TTT TCC TTC C
TGG GGG TGG CCG TTG TGG GCG GTG TGG TCC GCC T TGC CTC TGC TGG TCT TTC-3' (FRAG. NO:1828) (SEQ.
ID NO: 1841)
- 5'-GGCCCGGGC-3' (FRAG. NO:1829) (SEQ. ID NO: 1842)
- 10 5'-GCCGGCGCGGGCG 3' (FRAG. NO:1830) (SEQ. ID NO:1843)
5'-GCCTGGGCTGGCC-3' (FRAG. NO:1831) (SEQ. ID NO: 1844)
5'-GGGGG TGGCCG-3' (FRAG. NO:1832) (SEQ. ID NO: 1845)
5'-GG GGG TGG CCG TTG TGG GCG G-3' (FRAG. NO:1833) (SEQ. ID NO: 1846)
5'-CGG TTT CCT TTG CCG TC-3' (FRAG. NO:1260)(SEQ. ID NO:1269)
- 15 5'-TTG GCC CGG GCT CCG GGT G-3' (FRAG. NO:1261)(SEQ. ID NO:1270)
5'-CCC GCC CGC CCG CCG GCC GCC GC-3' (FRAG. NO:1262)(SEQ. ID NO:1271)
5'-CCC GCC GGG CTG TCC CCG CCC CGC CCC-3' (FRAG. NO:1263)(SEQ. ID NO:1272)
5'-GGC CCG GGG CGC GGG GG-3' (FRAG. NO:1264)(SEQ. ID NO:1273)
5'-CGG CCC TCC CGC CCC TCT GG-3' (FRAG. NO:1265)(SEQ. ID NO:1274)
- 20 5'-GCC GGC GCG GGC GTC GG-3' (FRAG. NO:1266)(SEQ. ID NO:1275)
5'-CCG CTC GCG CCT GGG GTT CCC TCT CCT CCC CCT GTG C-3' (FRAG. NO:1267)(SEQ. ID NO:1276)
5'-GCC TGC CTC TTG CTC TTC-3' (FRAG. NO:1268)(SEQ. ID NO:1277)
5'-TGC GTC CGC TGC CTT CTC CC-3' (FRAG. NO:1269)(SEQ. ID NO:1278)
5'-CTC TCC TCG GCC CTT GCC TGT GC-3' (FRAG. NO:1270)(SEQ. ID NO:1279)
- 25 5'-TGT CCG TCC TGT CCG CCT TCC GTG GTG C-3' (FRAG. NO:1271)(SEQ. ID NO:1280)
5'-TGT TGT CTC TTC TGC CCT C-3' (FRAG. NO:1272)(SEQ. ID NO:1281)
5'-GGT GTG CTG GTG CTG GTG GTG GTG-3' (FRAG. NO:1273)(SEQ. ID NO:1282)
5'-CCT CTG CCC GTG CTC GCC-3' (FRAG. NO:1274)(SEQ. ID NO:1283)
5'-CTG CCT GGG CTG GCC TCT TCG GGT-3' (FRAG. NO:1275)(SEQ. ID NO:1284)
- 30 5'-GTG GCT TTG GGG CTC TCT TGG TTG CCC TTT-3' (FRAG. NO:1276)(SEQ. ID NO:1285)
5'-CTT CTC GTG GTG CTT CTC CTC CCT GGC TTG GTC GT-3' (FRAG. NO:1277)(SEQ. ID NO:1286)
5'-TGT CTG GGG TGG TGC TCC TCT CCC-3' (FRAG. NO:1278)(SEQ. ID NO:1287)
5'-TTT CCC TGC TGG CCG TTT GT-3' (FRAG. NO:1279)(SEQ. ID NO:1288)
5'-CCT GTT TTC TGT CTT CCT CT-3' (FRAG. NO:1280)(SEQ. ID NO:1289)
- 35 5'-TTC CTC CTG TTT CTC CGT-3' (FRAG. NO:1281)(SEQ. ID NO:1290)
5'-TTG GCT TGC TGC TTG CGG GGC TGT CTC C-3' (FRAG. NO:1282)(SEQ. ID NO:1291)
5'-CTT GCC CCT GTG GGC TTT CCC-3' (FRAG. NO:1283)(SEQ. ID NO:1292)
5'-TGG TCC GGT CTT CTC CTT GGG GGT C-3' (FRAG. NO:1284)(SEQ. ID NO:1293)
5'-GCC CTT CTT GGT GGG CTG-3' (FRAG. NO:1285)(SEQ. ID NO:1294)
- 40 5'-GCT CGT CTG TCT TTT TCC TTC C-3' (FRAG. NO:1286)(SEQ. ID NO:1295)
5'-TGG GGG TGG CCG TTG TGG GCG GTG TGG TCC GCC T-3' (FRAG. NO:1287)(SEQ. ID NO:1296)
5'-TGC CTC TGC TGG TCT TTC-3' (FRAG. NO:1288)(SEQ. ID NO:1297)

Human Interleukin-1 (IL-1) Nucleic Acid and antisense Oligonucleotide Fragments

- 5'-AAGCTTCTAC CCAGTCTGG TGCTACACTT ACATTGCTTA CATCCAAGTG TGGTTATTTC TGTGGCTCCT
45 GTTATAACTA TTATAGCACC AGGTCTATGA CCAGGAGAAT TAGACTGGCA TTAAATCAGA ATAAGAGATT
TTGCACCTGC AATAGACCTT ATGACACCTA ACCAACCCCA TTATTACAA TTAAACAGGA ACAGAGGGAA
TACTTTATCC AACTACACACA AGCTGTTTTT CTCCAGATC CATGCTTTTT TGCGTTTATT ATTTTITAGA
GATGGGGGCT TCACTATGTT GCCCACACTG GACTAAACT CTGGGCCTCA AGTGATTGTC CTGCCTCAGC
CTCTGAATA GCTGGGACTA CAGGGGCATG CCATCACACC TAGTTCATTT CCTCTATTTA AAATATACAT
50 GGCTTAAACT CCAACTGGGA ACCCAAACA TTCATTGCT AAGAGTCTGG TGTCTACCA CCTGAACCTAG
GCTGGCCACA GGAAATATAA AAGCTGAGAA ATTCTTAAT AATAGTAACC AGGCAACATC ATTGAAGGCT
CATATGTAAG AATCATGCC TTCCTTCTC CCAATCTCCA TTCCCAAACCT TAGCCACTGG TTCTGGCTGA
GGCCTTACGC ATACCTCCCG GGGCTGACAC ACACCTTCTT CTACAGAAGA CACACCTTGG GCATATCCTA
CAGAAGACCA GGCCTCTCTC TGGTCCTTGG TAGAGGGCTA CTTTACTGTA ACAGGGCCAG GGTGAGAGT
55 TCTCTCTGA AGCTCATCC CCTCTATAGG AAATGTGTTG ACAATATTCA GAAGAGTAAG AGGATCAAGA
CTTCTTTGTG CTCAAATACC ACTGTTCTCT TCTCTACCCT GCCCTAACCA GGAGCTTGTC ACCCCAAACT
CTGAGGTGAT TTATGCCTTA ATCAAGCAAA CTTCCTCTT CAGAAAAGAT GGCTCATTTT CCCTCAAAG
TTGCCAGGAG CTGCCAAGTA TTCTGCCAAT TCACCCTGGA GCACAATCAA CAAATTCAGC CAGAACACAA
CTACAGCTAC TATTAGAAGT ATTATTATTA ATAAATTCCT CTCCAAATCT AGCCCTTGA CTTCGGATTT
60 CACGATTCT CCCTTCCTCC TAGAACTTG ATAAGTTTCC CGCGCTTCCC TTTTCTAAG ACTACATGTT
TGTCATCTTA TAAAGCAAG GGGTGAATAA ATGAACCAA TCAATAACTT CTGGAATATC TGCAACAAC

[illegible]

[illegible]

Variable	Mean	SD	Min	Max
Age	35.2	12.5	18	65
Gender	0.5	0.5	0	1
Marital status	0.6	0.5	0	1
Education	12.5	2.5	9	16
Income	3000	1500	1000	6000
Health status	0.8	0.2	0.5	1.0
Stress level	4.5	1.5	2	7
Life satisfaction	5.5	1.0	4	7
Work-life balance	3.5	1.0	2	5
Family support	4.0	1.0	3	5
Community involvement	2.5	1.0	1	4
Personal growth	3.0	1.0	2	4
Relationship quality	4.5	1.0	3	5
Financial stability	3.5	1.0	2	4
Healthcare access	4.0	1.0	3	5
Education quality	3.5	1.0	2	4
Employment stability	3.0	1.0	2	4
Work environment	3.5	1.0	2	4
Work-life balance	3.5	1.0	2	4
Family support	4.0	1.0	3	5
Community involvement	2.5	1.0	1	4
Personal growth	3.0	1.0	2	4
Relationship quality	4.5	1.0	3	5
Financial stability	3.5	1.0	2	4
Healthcare access	4.0	1.0	3	5
Education quality	3.5	1.0	2	4
Employment stability	3.0	1.0	2	4
Work environment	3.5	1.0	2	4
Work-life balance	3.5	1.0	2	4
Family support	4.0	1.0	3	5
Community involvement	2.5	1.0	1	4
Personal growth	3.0	1.0	2	4
Relationship quality	4.5	1.0	3	5
Financial stability	3.5	1.0	2	4
Healthcare access	4.0	1.0	3	5
Education quality	3.5	1.0	2	4
Employment stability	3.0	1.0	2	4
Work environment	3.5	1.0	2	4
Work-life balance	3.5	1.0	2	4
Family support	4.0	1.0	3	5
Community involvement	2.5	1.0	1	4
Personal growth	3.0	1.0	2	4
Relationship quality	4.5	1.0	3	5
Financial stability	3.5	1.0	2	4
Healthcare access	4.0	1.0	3	5
Education quality	3.5	1.0	2	4
Employment stability	3.0	1.0	2	4
Work environment	3.5	1.0	2	4
Work-life balance	3.5	1.0	2	4
Family support	4.0	1.0	3	5
Community involvement	2.5	1.0	1	4
Personal growth	3.0	1.0	2	4
Relationship quality	4.5	1.0	3	5
Financial stability	3.5	1.0	2	4
Healthcare access	4.0	1.0	3	5
Education quality	3.5	1.0	2	4
Employment stability	3.0	1.0	2	4
Work environment	3.5	1.0	2	4
Work-life balance	3.5	1.0	2	4
Family support	4.0	1.0	3	5
Community involvement	2.5	1.0	1	4
Personal growth	3.0	1.0	2	4
Relationship quality	4.5	1.0	3	5
Financial stability	3.5	1.0	2	4
Healthcare access	4.0	1.0	3	5
Education quality	3.5	1.0	2	4
Employment stability	3.0	1.0	2	4
Work environment	3.5	1.0	2	4
Work-life balance	3.5	1.0	2	4
Family support	4.0	1.0	3	5
Community involvement	2.5	1.0	1	4
Personal growth	3.0	1.0	2	4
Relationship quality	4.5	1.0	3	5
Financial stability	3.5	1.0	2	4
Healthcare access	4.0	1.0	3	5
Education quality	3.5	1.0	2	4
Employment stability	3.0	1.0	2	4
Work environment	3.5	1.0	2	4
Work-life balance	3.5	1.0	2	4
Family support	4.0	1.0	3	5
Community involvement	2.5	1.0	1	4
Personal growth	3.0	1.0	2	4
Relationship quality	4.5	1.0	3	5
Financial stability	3.5	1.0	2	4
Healthcare access	4.0	1.0	3	5

[illegible]

Variable	Mean	SD	Min	Max
Age	34.5	10.2	18	65
Gender	0.5	0.5	0	1
Marital Status	0.6	0.5	0	1
Education	12.5	1.5	9	16
Income	3500	1500	1000	8000
Health	0.8	0.2	0	1
Smoking	0.3	0.5	0	1
Drinking	0.2	0.4	0	1
Exercise	0.4	0.5	0	1
Stress	0.6	0.3	0	1
Sleep	0.7	0.2	0	1
Work	0.8	0.2	0	1
Family	0.9	0.1	0	1
Friends	0.7	0.3	0	1
Hobbies	0.6	0.4	0	1
Travel	0.5	0.5	0	1
Reading	0.4	0.5	0	1
Gardening	0.3	0.5	0	1
Cooking	0.5	0.5	0	1
Volunteering	0.2	0.4	0	1
Religion	0.6	0.3	0	1
Politics	0.4	0.5	0	1
Art	0.3	0.5	0	1
Music	0.4	0.5	0	1
Sports	0.5	0.5	0	1
Technology	0.6	0.3	0	1
Environment	0.7	0.2	0	1
History	0.5	0.4	0	1
Science	0.6	0.3	0	1
Philosophy	0.4	0.5	0	1
Psychology	0.5	0.4	0	1
Sociology	0.4	0.5	0	1
Anthropology	0.3	0.5	0	1
Geography	0.4	0.5	0	1
Language	0.5	0.4	0	1
Mathematics	0.4	0.5	0	1
Physics	0.3	0.5	0	1
Chemistry	0.3	0.5	0	1
Biology	0.4	0.5	0	1
Medicine	0.5	0.4	0	1
Law	0.4	0.5	0	1
Business	0.5	0.4	0	1
Engineering	0.4	0.5	0	1
Architecture	0.3	0.5	0	1
Design	0.4	0.5	0	1
Writing	0.5	0.4	0	1
Acting	0.3	0.5	0	1
Dancing	0.2	0.4	0	1
Musical Instruments	0.3	0.5	0	1
Video Games	0.4	0.5	0	1
Collecting	0.3	0.5	0	1
Fishing	0.2	0.4	0	1
Hunting	0.1	0.3	0	1
Boating	0.2	0.4	0	1
Traveling	0.5	0.5	0	1
Volunteering	0.3	0.5	0	1
Religion	0.6	0.3	0	1
Politics	0.4	0.5	0	1
Art	0.3	0.5	0	1
Music	0.4	0.5	0	1
Sports	0.5	0.5	0	1
Technology	0.6	0.3	0	1
Environment	0.7	0.2	0	1
History	0.5	0.4	0	1
Science	0.6	0.3	0	1
Philosophy	0.4	0.5	0	1
Psychology	0.5	0.4	0	1
Sociology	0.4	0.5	0	1
Anthropology	0.3	0.5	0	1
Geography	0.4	0.5	0	1
Language	0.5	0.4	0	1
Mathematics	0.4	0.5	0	1
Physics	0.3	0.5	0	1
Chemistry	0.3	0.5	0	1
Biology	0.4	0.5	0	1
Medicine	0.5	0.4	0	1
Law	0.4	0.5	0	1
Business	0.5	0.4	0	1
Engineering	0.4	0.5	0	1
Architecture	0.3	0.5	0	1
Design	0.4	0.5	0	1
Writing	0.5	0.4	0	1
Acting	0.3	0.5	0	1
Dancing	0.2	0.4	0	1
Musical Instruments	0.3	0.5	0	1
Video Games	0.4	0.5	0	1
Collecting	0.3	0.		

CTTTGGGTGG CAGGGGCAGA AAGATCGCTT GAGCCCAGGA GTTCAAGACC AGCCTGGGCA ACATAGTGAG
 ACTCCCATCT CTACAAAAA TAAATAAATA AATAAAACAA TCAGCCAGGC ATGCTGGCAT GCACCTGTAG
 TCCTAGCTAC TTGG3AAGCT GACACTGGAG GATTGCTTGA GCCCAGAAGT TCAAGACTGC AGTGAGCTTA
 TCCGTTGACC TGCAGGTCGA CACAAACCTTT TCGAGGCAAA AGGCACAAAAA GGCTGCTCTG GGATTCTCTT
 5 CAGCCAATCT TCAATGCTCA AGTGTCTGAA GCAGCCATGG CAGAAGTACC TAAGCTCGCC AGTGAAATGA
 TGGCTTATTA CAGTGGCAAT GAGGATGACT TGTTCCTTGA AGCTGATGGC CCTAAACAGA TGAAGTGCTC
 CTTCCAGGAC CTGGACCTCT GCCCTCTGGA TGGCGGCATC CAGCTACGAA TCTCCGACCA CCACTACAGC
 AAGGGCTTCA GGCAGGCCGC GTCAGTGTGT GTGGCCATGG ACAAGCTGAG GAAGATGCTG GTTCCCTGCC
 CACAGACCTT CCACGAGAAT GACCTGAGCA CCTTCTTTCC CTTCATCTTT GAAGAAGAAC CTATCTTCTT
 10 CGACACATGG GATACGAGG CTTATGTGCA CGATGCACCT GTACGATCAC TGAAGTGCAC GCTCCGGGAC
 TCACAGCAAA AAAGCTTGTT GATGTCTGGT CCATATGAAC TGAAAGCTCT CCACCTCCAG GGACAGGATA
 TGGAGCAACA AGTGTGTGTT TCCATGTCTT TTGTACAAGG AGAAGAAAGT AATGACAAAA TACCTGTGGC
 CTTGGGCTC AAGCAAAAGA ATCTGTACCT GTCCTGCGTG TTGAAAGATG ATAAGCCAC TCTACAGCTG
 GAGAGTGTAG ATCCAAAAA TTACCCAAAG AAGAAGATGG AAAAGCGATT TGTCTTCAAC AAGATAGAAA
 15 TCAATAACAA GCTCGAATTT GAGTCTGCCC AGTTCGCCAA CTGGTACATC AGCACCTCTC AAGCAGAAAA
 CATGCCCTGC TTCCGCGGAG GGACCAAAAG CGGCCAGGAT ATAAGTACTG TCACCATGCA ATTTGTGTCT
 TCCTAAAGAG AGCTGTACCC AGAGAGTCTT GTGCTGAATG TGGACTCAAT CCCTAGGGCT GGCAGAAAGG
 GAACAGAAAG GTTCTTGAGT ACGGCTATAG CCTGGACTTT CCTGTTGTCT ACACCAATGC CCAACTGCCT
 GCCTTAGGTT AGTCCTAAGA GGATCTCCTG TCCATCAGCC AGGACAGTCA GCTCTCTCTT TCGAGGCCA
 20 ATCCAGCCCT TTTTCTTGAG CCAGGCTCTC CTCACCTCTC CTACTCACTT AAAGCCCGCC TTGACAAAC
 CAGGCCACAT TTCTGTTCTA AGAAACCTCT CTCTGTCTT CGCTCCCACT TTCTGATGAG CAACCGCTTC
 CCTATTTATT TATTATTTTG TTTGTTTGT TGTATTCTT GGTCTAATTT ATTCAAAGGG GGCAAGAAGT
 AGCAGTGTCT GTAAGAGC CTAGTTTTTA ATAGCTATGG AATCAATTCA ATTTGGACTG GTGTGCTCTC
 TTTAAATCAA GTCCTTTAAT TAAGACTGAA AATATATAAG CTCAGATTAT TTAATGGGA ATATTTATAA
 25 ATGAGCAAAT ATCACTACTGT TCAATGGTTC TCAAATAAAC TTCACT CTGGCAGGAG TAGCAGCTGC
 CCCTTGGCGC GACTGCTGGA GCCGCGAAGT AGAGAAACAC AGACACGCCT CATAGAGCAA CGGCGTCTCT
 CGGAGCGTGG AGCCGCGCAA GCTCGAGCTG AGCTTTCGCT TGCCGTCCAC CACTGCCAC ACTGTCTGTT
 GCTGCCATCG CAGCTCTGCT GCTGACTTCC ATCCCTCTGG ATCCGCGCAAG GGCCTGCGAT TTTGACAATG
 TCAAGATTTA CCGTATATCC CTGTTTGT TGGATACCA GTGACGTCCA CTCTAGAAG ACAAAGTTAT
 30 ATTACTTAAA CAACCAAAGA TATGAACTA TCCATGAAGA ACAATATTAT CAATACACAG CAGTCTTTTG
 TAACCATGCC CAATGTGATT GTACCAGATA TTGAAAAGGA AATACGAAGG ATGGAAAATG GAGCATGCAG
 CTCCTTTTCT GAGGATGATG ACAGTGCCTC TACATCTGAA GAATCAGAGA ATGAAAACCC TCATGCAAGG
 GGTTCTTTTA GTTAATAGTC ACTCAGAAAG GGAGGACCAT CACAGAGGGA GCAGTACCTG CCTGGTGCCA
 TTGCCATTTT TAATGTGAAC AACAGCGACA ATAAGGACCA GGAACCAGAA GAAAAAAGA AAAAGAAAAA
 35 AGAAAAAGAG AGCAAGTCAG ATGATAAAAA CGAAAAATAA AACGACCCAA AGAAGAAGT GGAAAGCGCA
 ATGGCCAAAG TTCCAGACAT GTTTGAAGAC CTGAAGAACT GTTACAGTGA AAATGAAGAA GACAGTCTCT
 CCATTGATCA TCTGCTCTG AATCAGAAAT CCTTCTATCA TGTAAGCTAT GGCCCACTCC ATGAAGGCTG
 CATGGATCAA TCTGTGTCTC TGAGTATCTC TGAACCTCT AAAACATCCA AGCTTACCTT CAAGGAGAGC
 ATGGTGGTAG TAGCAACCAA CGGGAAGGTT CTGAAGAAGA GACGGTTGAG TTTAAGCCAA TCCATCACTG
 40 ATGATGACCT GGACGCCATC GCCAATGACT CAGAGGAAGA AATCATCAAG CCTAGGTCAG CACCTTTTAG
 CTTCTGAGC AATGTGAAAT ACACTTTTAT GAGGATCATC AAATACGAAT TCATCCTGAA TGACGCCCTC
 AATCAAAGTA TAATTCGAGC CAATGATCAG TACCTCAGG CTGCTGCATT ACATAATCTG GATGAAGCAG
 TGAATTTTGA CATGGTGCT TATAAGTCAT CAAAGGATGA TGCTAAAATT ACCGTGATTC TAAGAATCTC
 AAAAACTCAA TTGTATGTGA CTGCCCAAGA TGAAGACCAA CCAGTGCTGC TGAAGGAGAT GCCTGAGATA
 45 CCAAAACCA TCACAGGTAG TGAGACCAAC CTCCTCTTCT TCTGGGAAAC TCACGGCACT AAGAACTATT
 TCACATCAGT TGCCCATCCA AACTTGTTTA TTGCCACAAA GCAAGACTAC TGGGTGTGCT TGGCAGGGG
 GCCACCCTCT ATCACTGACT TTCAGATACT GGAAAACCA GCGTAGGTCT GGAGTCTCAC TTGTCTACT
 TGTGCAGTGT TGACAGTTCA TATGTACCAT GTACATGAAG AAGCTAAATC CTTTACTGTT AGTCATTGTC
 TGAGCATGTA CTGACCTTG TAATTCTAAA TGAATGTTTA CACTCTTTGT AAGAGTGGAA CCAACACTAA
 50 CATATAATGT TGTATTTAA AGAACCCCT ATATTTTGCA TAGTACCAAT CATTTTAATT ATTATTCTTC
 ATAACAATTT TAGGAGGACC AGAGCTACTG ACTATGGCTA CCAAAAAGAC TCTACCCATA TTACAGATGG
 GCAAAATTAAG GCATAAGAAA ACTAAGAAAT ATGCACAATA GCAGTTGAAA CAAGAAGCCA CAGACCTAGG
 ATTTTCATGAT TTCAATTCAA CTGTTTGCCT TCTGCTTTTA AGTTGCTGAT GAACTCTTAA TCAAAATAGCA
 TAAGTTTCTG GGACCTCAGT TTTATCATTT TCAAAATGGA GGAATAATA CCTAAGCCTT CCTGCCGCA
 55 CAGTTTTTTA TGCTAATCAG GGAGGTCAAT TTGGTAAAT ACTTCTCGAA GCGGAGCCTC AAGATGAAGG
 CAAAGCACGA AATGTTATTT TTTAATTATT ATTTATATAT GTATTTATAA ATATATTTAA GATAATTATA
 ATATACTATA TTTAIGGGAA CCCCTTCATC CTCTGAGTGT GACCAGGCAT CCTCCACAAT AGCAGACAGT
 GTTTTCTGGG ATAAAGTAAG TTGATTTTAT TAATACAGG CATTTTGGTC CAAGTTGTGC TTATCCATA
 GCCAGGAAAC TCTGCTATTCT AGTACTTGGG AGACCTGTAA TCAATAATA AATGTACATT AATTACCTTG
 60 AGCCAGTAAT TGGTCCGATC TTTGACTCTT TTGCCATTAA ACTTACCTGG GCATTCTTGT TTCATTCAAT
 TCCACCTGCA ATCAAGTCTT ACAAGCTAAA ATTAGATGAA CTCAACTTTG ACAACCATAG ACCACTGTTA
 TCAAACTTT CTTTCTGGA ATGTAATCAA TGTTCCTTCT AGGTTCTAAA AATTGTGATC AGACCATAAT

GTTACATTAT TATCAACAAT AGTGATTGAT AGAGTGTTAT CAGTCATAAC TAAATAAAGC TTGCAAGTGA
 GGGAGTCATT TCATTGGCGT TTGAGTCAGC AAAGAAGTCA AG AGCTGCCAGC CAGAGAGGGA GTCATTTTCAT
 TGGCGTTTGA GTCAGCAAAG AAGTCAAGAT GGCCAAAGTT CCAGACATGT TTGAAGACCT GAAGAAGTGT
 TACAGTGAAG ATGAAGAAGA CAGTTCCTCC ATTGATCATC TGTCTCTGAA TCAGAAATCC TTCTATCATG
 5 TAAGCTATGG CCCACTCCAT GAAGGCTGCA TGGATCAATC TGTGTCTCTG AGTATCTCTG AAACCTCTAA
 AACATCCAAG CTTACTTCA AGGAGAGCAT GGTGGTAGTA GCAACCAACG GGAAGGTTCT GAAGAAGAGA
 CGGTTGAGTT TAACCCAATC CATCACTGAT GATGACCTGG AGGCCATCGC CAATGACTCA GAGGAAGAAA
 TCATCAAGCC TAGCTCATCA CCTTTAGCT TCCTGAGCAA TGTGAAATAC AACTTTATGA GGATCATCAA
 10 ATACGAATTC ATCTGAATG ACGCCCTCAA TCAAAGTATA ATTCGAGCCA ATGATCAGTA CCTCACGGCT
 GCTGCATTAC ATA TCTGGA TGAAGCAGTG AAATTGACA TGGGTGCTTA TAAGTCATCA AAGGATGATG
 CTAAAATTAC CGTCATTCTA AGAATCTCAA AAATCAATT GTATGTGACT GCCCAAGATG AAGACCAACC
 AGTGCTGCTG AAGGAGATGC CTGAGATACC CAAAACCATC ACAGGTAGTG AGACCAACCT CCTCTTCTTC
 TGGGAAACTC ACGGCACTAA GAACTATTTT ACATCAGTTG CCCATCCAAA CTTGTTTATT GCCACAAAGC
 AAGACTACTG GGTGTGCTTG GCAGGGGGGC CACCCTCTAT CACTGACTTT CAGATACTGG AAAACCAGGC
 15 GTAGGTCTGG AGTCTCACTT GTCTCACTTG TGCAGTGTG ACAGTTCATA TGTACCATGT ACATGAAGAA
 GCTAAATCCT TTA CTGTTAG TCATTGCTG AGCATGTACT GAGCCTTGTA ATTCTAAATG AATGTTTACA
 CTCTTTGTAA GAGTGAAC AACACTAACA TATAATGTTG TTATTTAAAG AACACCCTAT ATTTTGCATA
 GTACCAATCA TTTAATTAT TATTCTTCA AACAATTTTA GGAGGACCAG AGCTACTGAC TATGGCTACC
 AAAAAACTC TCCCATATT ACAGATGGGC AAATTAAAGC ATAAGAAAAC TAAGAAATAT GCACAATAGC
 20 AGTCGAAACA AGAAGCCACA GACCTAGGAT TTCATGATTT CATTCAACT GTTGGCCTTC TGCTTTTAAAG
 TTGCTGATGA ACTTTAATC AAATAGCATA AGTTTCTGGG ACCTCAGTTT TATCATTTTC AAAATGGAGG
 GAATAATACC TAAGCCTTCC TGCCGCAACA GTTTTTTATG CTAATCAGGG AGGTCATTTT GGTAATAATC
 TTCTCGAAGC CGAGCCTCAA GATGAAGGCA AAGCACGAAA TGTTATTTT TAATTATTAT TTATATATGT
 ATTTATAAAT ATA TTAAGA TAATTATAAT ATACTATATT TATGGGAACC CCTTCATCCT CTGAGTGTGA
 25 CCAGGCATCC TCCAATAG CAGACAGTGT TTTCTGGGAT AAGTAAGTTT GATTTCATTA ATACAGGGCA
 TTTTGGTCCA AGTGTGCTT ATCCCATAGC CAGGAACTC TGCATTCTAG TACTTGGGAG ACCTGTAATC
 ATATAATAAA TGTACATTA TTACCTTGAG CCAGTAATTG TGCCGATCTT TGACTCTTTT GCCATTAAAC
 TTACCTGGGC ATTCTGTTT CATTCAATTC CACCTGCAAT CAAGTCCTAC AAGCTAAAAAT TAGATGAACT
 CAACTTTGAC AACCATGAGA CCACTGTTAT CAAAACTTTC TTTTCTGGAA TGTAATCAAT GTTCTTCTA
 30 GGTTCTAAAA ATTCTGATCA GACCATAATG TTACATTATT ATCAACAATA GTGATTGATA GAGTGTATC
 AGTCATAACT AAATAAAGCT TGCAACAAAA TTCTCTG-3' (FRAG. NO:)(SEQ. ID NO:2517)
 5'-AAGCTTCTAC CTAAGTCTGG TGCTACACTT ACATTGCTTA CATCCAAGTG TGGTTATTTC TGTGGCTCCT
 GTTATAACTA TTATAGCACC AGGTCTATGA CCAGGAGAAT TAGACTGGCA TTAAATCAGA ATAAGAGATT
 TTGCACCTGC AATGACCTT ATGACACCTA ACCAACCCCA TTATTTACAA TTAACAGGA ACAGAGGGAA
 35 TACTTTATCC AACACACA AGCTGTTTTT CCCCAGATC CATGCTTTT TGCGTTTATT ATTTTITAGA
 GATGGGGGCT TCACTATGTT GCCCAGCTG GACTAAACT CTGGGCCTCA AGTGATTGTC CTGCCTCAGC
 CTCCTGAATA GCTGGGACTA CAGGGGCATG CCATCACACC TAGTTCATT CCTCTATTTA AAATATACAT
 GGCTTAAACT CCACTGGGA ACCCAAAACA TTCATTTGCT AAGAGTCTGG TGTCTACCA CCTGAAGTAG
 GCTGGCCACA GGAATTATAA AAGCTGAGAA ATTCTTTAAT AATAGTAACC AGGCAACATC ATTGAAGGCT
 40 CATATGTAAG AATCATGCC TTCCTTCTC CCAATCTCCA TCCCCAACT TAGCCACTGG TTCTGGCTGA
 GGCCTTACGC ATACTCTCCG GGGCTTGCA ACACCTCTT CTACAGAAGA CACACCTGG GCATATCCTA
 CAGAAGACCA GGCCTCTCTC TGGTCTTGG TAGAGGGCTA CTTTACTGTA ACAGGGCCAG GGTGGAGAGT
 TCTCTCTGA AGCTCATCC CCTCTATAG AAATGTGTG ACAATATTCA GAAGAGTAAG GAGTCAAGA
 CTTCTTTGTG CTCAATACC ACTGTCTCT TCTCTACCCT GCCCTAACCA GGAGCTTGTC ACCCAAACT
 45 CTGAGGTGAT TTAAGCTTA ATCAAGCAAA CTCTCTCTT CAGAAAAGAT GGCTCATTTT CCCTCAAAAG
 TTGCCAGGAG CTGCAAGTA TTCTGCCAAT TCACCCTGGA GCACAATCAA CAAATTCAGC CAGAACACAA
 CTACAGCTAC TATAGAACT ATTATTATTA ATAAATTCCT CTCCAAATCT AGCCCCCTGA CTTCGGATT
 CACGATTTCT CCCCTCTCC TAGAAACTTG ATAAGTTTCC CGCGCTTCCC TTTTCTAAG ACTACATGTT
 TGTCACTTA TAAAGCAAAG GGGTGAATA ATGAACCAA TCAATAACT CTGGAATATC TGCAACAAC
 50 AATAATATCA GCTATGCCAT CTTTCACTAT TTAGCCAGT ATCGAGTTGA ATGAACATAG AAAAATACAA
 AACTGAATTC TTCTCTGTAA ATTCCCCGTT TTGACGACGC ACTTGTAGCC ACGTAGCCAC GCCTACTTAA
 GACAATTACA AAAAGCGAAG AAGACTGACT CAGGCTTAAG CTGCCAGCCA GAGAGGGAGT CATTTCAATG
 GCGTTTGAAG CAGCAAGGT ATTGTCTCTA CATCTCTGGC TATTAAAGTA TTTTCTGTTG TTGTTTTCT
 CTTTGGCTGT TTTCTCTAC ATTGCCTTCT CTAAAGCTAC AGTCTCTCCT TTCTTTTCTT GTCCCTCCCT
 55 GGTTTGGTAT GTGACCTAGA ATTACAGTCA GATTTAGAA AATGATTCTC TCATTTTGCT GATAAGGACT
 GATTGCTTTT ACTGAGGGAC GGCAGAACTA GTTCTCTATG AGGGCATGGG TGAATACAAC TGAGGCTTCT
 CATGGGAGGG AATCTCTACT ATCCAAAATT ATTAGAGGAA AATTGAAAAT TTCCAACCTT GTCTCTCTCT
 TACCTCTGTG TAAGGCAAAT ACCTTATTT TGTGGTGTG TGTAAACCTC TTCAAACCTT CATGATTGA
 ATGCCTGTTT TGGCAATACA TTAGGTTGGG CACATAAGGA ATACCAACAT AAATAAAACA TTCTAAAAGA
 60 AGTTTACGAT CTAATAAGG AGACAGGTAC ATAGCAAAC AATTCAAAGG AGCTAGAAGA TGGAGAAAAT
 GCTGAATGTG GACAAAGTCA TTCAACAAAG TTTTCAGGAA GCACAAAGAG GAGGGGCTCC CCTCACAGAT
 ATCTGGATTA GAGGCTGGCT GAGCTGATGG TGGCTGGTGT TCTCTGTTGC AGAAGTCAAG ATGGCCAAAG

00406706295560
 00406706295560

1990-1991		1991-1992		1992-1993		1993-1994		1994-1995		1995-1996		1996-1997		1997-1998		1998-1999		1999-2000		2000-2001		2001-2002		2002-2003		2003-2004		2004-2005		2005-2006		2006-2007		2007-2008		2008-2009		2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017		2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		2022-2023		2023-2024		2024-2025		2025-2026		2026-2027		2027-2028		2028-2029		2029-2030		2030-2031		2031-2032		2032-2033		2033-2034		2034-2035		2035-2036		2036-2037		2037-2038		2038-2039		2039-2040		2040-2041		2041-2042		2042-2043		2043-2044		2044-2045		2045-2046		2046-2047		2047-2048		2048-2049		2049-2050		2050-2051		2051-2052		2052-2053		2053-2054		2054-2055		2055-2056		2056-2057		2057-2058		2058-2059		2059-2060		2060-2061		2061-2062		2062-2063		2063-2064		2064-2065		2065-2066		2066-2067		2067-2068		2068-2069		2069-2070		2070-2071		2071-2072		2072-2073		2073-2074		2074-2075		2075-2076		2076-2077		2077-2078		2078-2079		2079-2080		2080-2081		2081-2082		2082-2083		2083-2084		2084-2085		2085-2086		2086-2087		2087-2088		2088-2089		2089-2090		2090-2091		2091-2092		2092-2093		2093-2094		2094-2095		2095-2096		2096-2097		2097-2098		2098-2099		2099-2100		2100-2101		2101-2102		2102-2103		2103-2104		2104-2105		2105-2106		2106-2107		2107-2108		2108-2109		2109-2110		2110-2111		2111-2112		2112-2113		2113-2114		2114-2115		2115-2116		2116-2117		2117-2118		2118-2119		2119-2120		2120-2121		2121-2122		2122-2123		2123-2124		2124-2125		2125-2126		2126-2127		2127-2128		2128-2129		2129-2130		2130-2131		2131-2132		2132-2133		2133-2134		2134-2135		2135-2136		2136-2137		2137-2138		2138-2139		2139-2140		2140-2141		2141-2142		2142-2143		2143-2144		2144-2145		2145-2146		2146-2147		2147-2148		2148-2149		2149-2150		2150-2151		2151-2152		2152-2153		2153-2154		2154-2155		2155-2156		2156-2157		2157-2158		2158-2159		2159-2160		2160-2161		2161-2162		2162-2163		2163-2164		2164-2165		2165-2166		2166-2167		2167-2168		2168-2169		2169-2170		2170-2171		2171-2172		2172-2173		2173-2174		2174-2175		2175-2176		2176-2177		2177-2178		2178-2179		2179-2180		2180-2181		2181-2182		2182-2183		2183-2184		2184-2185		2185-2186		2186-2187		2187-2188		2188-2189		2189-2190		2190-2191		2191-2192		2192-2193		2193-2194		2194-2195		2195-2196		2196-2197		2197-2198		2198-2199		2199-2200		2200-2201		2201-2202		2202-2203		2203-2204		2204-2205		2205-2206		2206-2207		2207-2208		2208-2209		2209-2210		2210-2211		2211-2212		2212-2213		2213-2214		2214-2215		2215-2216		2216-2217	
-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--	-----------	--

[illegible]

Parameter	Value	Unit
Temperature	25.0	°C
Pressure	1.0	atm
Flow rate	1.0	L/min
Sample concentration	0.1	g/L
Sample volume	1.0	L
Sample weight	0.1	g
Sample size	0.1	mm
Sample shape	0.1	mm
Sample color	0.1	mm
Sample texture	0.1	mm
Sample density	0.1	g/cm ³
Sample viscosity	0.1	Pa·s
Sample conductivity	0.1	S/cm
Sample refractive index	0.1	
Sample absorbance	0.1	
Sample transmittance	0.1	
Sample reflectance	0.1	
Sample emissivity	0.1	
Sample permeability	0.1	
Sample porosity	0.1	
Sample surface area	0.1	m ²
Sample volume fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	
Sample mole fraction	0.1	
Sample mass fraction	0.1	
Sample molar fraction	0.1	
Sample weight fraction	0.1	

TACTAAATTT AAACATTCTT CTAACGTGGG AAAATCCAGT ATTTTAATGT GGACATCAAC TGCACAACGA
 TTGTCAGGAA AACAAATGCAT ATTTGCATGG TGATACATTT GCAAAATGTG TCATAGTTTG CTAATCCTTG
 CCTTCCATG AACAGAGAA TTATCTCAGT TTATTAGTCC CCTCCCCTAA GAAGCTTCCA CCAATACTCT
 TTTCCCTTT CCTTAACTT GATTGTGAAA TCAGGTATTC AACAGAGAAA TTTCTCAGCC TCTACTTCT
 5 GCTTTTAAAA GCTATAAAAA CAGCGAGGGA GAAACTGGCA GATACCAAAC CTCTTCGAGG CACAAGGCAC
 AACAGGCTGC TCTGGATTCT TCTTCAGCCA ATCTTCATTG CTCAAGTATG ACTTTAATCT TCCTTACAAC
 TAGGTGCTAA GGGAGTCTCT CTGTCTCTCT GCCTCTTTGT GTGTATGCAT ATTCTCTCTC TCTCTCTCTT
 TCTTCTCTG TCTCTCTCT CTTTCTCTCT TGCTCTCTCT CTCAGCTTTT TGCAAAAATG CCAGGTGTAA
 TATAATGCTT ATGACTCGGG AAATATTCTG GGAATGGATA CTGCTTATCT AACAGCTGAC ACCCTAAAAGG
 10 TTAGTGTCAA AGCTCTGCT CCAGCTCTCC TAGCCAATAC ATTGCTAGTT GGGGTTTGGT TTAGCAAAATG
 CTTTCTCTA GACCCAAAGG ACTTCTCTTT CACACATTCA TTCATTTACT CAGAGATCAT TTCTTTGCAT
 GACTGCCATG CACTGGATGC TGAGAGAAAT CACACATGAA CGTAGCCGTC ATGGGGAAGT CACTCATTTT
 CTCCTTTTCA CACAAGTGTC TGAAGCAGCC ATGGCAGAAAG TACCTGAGCT CGCCAGTGAA ATGATGGCTT
 ATTACAGGTC AGTCGAGACG CTGAGACCAG TAACATGAGC AGGTCTCTCT TTTCAAGAGT AGAGTGTAT
 15 CTGTGCTTGG AGACGAGATT TTTCCCTAA ATTGCCTCTT TCAGTGGCAA ACAGGGTGCC AAGTAAATCT
 GATTTAAAGA CTACTTTCCC ATTACAAAGTC CCTCCAGCCT TGGGACCTGG AGGCTATCCA GATGTGTTGT
 TGCAAGGGCT TCCTGCAGAG GCAATGGGG AGAAAAGATT CCAAGCCCAC AATACAAGGA ATCCCTTTGC
 AAAGTGTGGC TTGAGGGAG AGGGAGAGCT CAGATTTTGA CTGACTCTGC TGGGCTAGAG GTTAGGCCCTC
 AAGATCCAAC AGGGAGCACC AGGGTGCCCA CTGCGAGGC CTAGAATCTG CCTTCTGGAC TGTCTGCGC
 20 ATATCACTGT GAACTTGCC AGGTGTTTCA GGCAGCTTTG AGAGGCAGGC TGTGTCAGT TTCTTATGAA
 CAGTCAAGTC TTGTACACAG GGAAGGAAAA ATAAACCTGT TTAGAAGACA TAATTGAGAC ATGTCCCTGT
 TTTTATTACA GTGGCAATGA GGATGACTTG TTCTTTGAAG CTGATGGCCC TAAACAGATG AAGGTAAGAC
 TATGGGTTTA ACTCCAACC CAAGGAAGGG CTCTAACACA GGGAAAGCTC AAAGAAGGGA GTTCTGGGCC
 ACTTTGATGC CATGTGATTT TGTTTTAGAA AGACTTTAAC CTCTCCAGT GAGACACAGG CTGCACCACT
 25 TGCTGACCTG GCCCTTGGT CATCATATCA CCACAGTCAC TACTAACGT TGGTGGTGGT GGCCACACTT
 GGTGGTGACA GGGGAGGAGT AGTGATAATG TTCCCATTTT ATAGTAGGAA GACAACCAAG TCTTCAACAT
 AAATTTGATT ATCTTTTAA GAGATGGATT CAGCTATGCT CAATCACTTG AGTTAAACTC TGAAACCAAG
 AGATGATCTT GAGAATAAAC ATATGTCTAC CCTTTTGAG TAGAATAGTT TTTTGCTACC TGGGGTGAAG
 CTTATAACAA CAACACATAG ATGATATAAA CAAAAGATG AATTGAGACT TGAAAGAAAA CCATTCACTT
 30 GCTGTTTGAC CTTGACAAGT CATTTTACCC GCTTTGGACC TCATCTGAAA AATAAAGGGC TGAGCTGGAT
 GATCTCTGAG ATTCAGCAT CCTGCAACCT CCAGTCTGTA AATATTTTCA GTTGTAGCTA AGGGCATTG
 GGCAGCAAAT GGTCAATTTT CAGACTCATC CTTACAAAGA GCCATGTTAT ATTCTGCTG TCCCTTCTGT
 TTTATATGAT GCTCAGTAGC CTTCTAGGT GCCAGCCAT CAGCCTAGCT AGGTCAGTTG TGCAGGTTGG
 AGGCAGCCAC TTTCTCTGG CTTTATTTTA TTCCAGTTG TGATAGCCTC CCCTAGCCTC ATAATCCAGT
 35 CCTCAATCTT GTTAAACAA TATTCTTTA GAAGTTTAA GACTGGCATA ACTTCTGGC TGCAGCTGTG
 GGAGGAGCCC ATTGGCTTGT CTGCCTGGCC TTGCCCCCCT ATTGCCTCTT CCAGCAGCTT GGCTCTGCTC
 CAGGCAGGAA ATTCTCTCT GCTCAACTTT CTTTTGTGCA CTTACAGGTC TCTTAACTG TCTTCAAGC
 CTTTGAACCA TTATCAGCCT TAAGGCAACC TCAGTGAAGC CTTAATACGG AGCTTCTCTG AATAAGAGGA
 40 AAGTGGTAAC ATTACACAAA AAGTACTCTC ACAGGATTG CAGAATGCCT ATGAGACAGT GTTATGAAAA
 AGGAAAAAAA AGAACAGTGT AGAAAAATTG AATACTTGCT GAGTGAGCAT AGGTGAATGG AAAATGTTAT
 GGTCATCTGC ATGAAAAAGC AAATCATAGT GTGACAGCAT TAGGGATACA AAAAGATATA GAGAAGGTAT
 ACATGTATGG TGTAGGTGGG GCATGTACAA AAGATGACG AGTAGAATCG GGATTTATTC TAAAGAATAG
 CCTGTAAGGT GTCCAGAAGC CACATTCTAG TTTGAGTCT GCCTCTACCT CTTGTGTGCC TGTGATACA
 45 CCTTAACCT CTTGAGCTT CAGAGAGGGA TAATCTTTT ATTTTATTTT ATTTTATTTT GTTTTGTTTT
 GTTTTGTTTT GTTTATGAG ACAGAGTCTC ACTCTGTTGC CCAGGCTGGA GTGCAGTGGT ACAATCTTGG
 CTTACTGCAT CCTCCACCTC CTGAGTTCAA GCGATTCTCC TTCCTCAGTC TCCTGAATAG CTAGGATTAC
 AGGTGCACCC CACTACACCC AGCTAATTTT TGTATTTTTA GTAGAGAAGG GGTTTCGCCA TGTGCGCCAG
 GCTGGTTTTG AAGTCTGTAC CTAATGATT CATCCACCTC GGCTTCCCAA AGTGCTGGGA TTACAGGCAT
 50 GAGCCACCAC GCCTGGCCCA GAGAGGGATG ATCTTTAGAA GCTCGGGATT CTTTCAAGCC CTTTCTCTCT
 CTCTGAGCTT TCTACTCTCT GATGTCAAAG CATGGTTCCT GGCAGGACCA CCTCACCAGG CTCCCTCCCT
 CGCTCTCTCC GCAGTGCTCC TTCCAGGACC TGGACCTCTG CCCTCTGGAT GGCGGCATCC AGTACGAAT
 CTCCGACCAC CACTACAGCA AGGGCTTCAG GCAGGCCGCG TCAGTTGTTG TGGCCATGGA CAAGCTGAGG
 AAGATGCTGG TTCTCTGCCC ACAGACCTTC CAGGAGAATG ACCTGAGCAC CTTCTTTCCC TTCATCTTTG
 AAGAAGGTAG TTACCCAAGA GCAGGCAGTA GATCTCCACT TGTGTCCTCT TGGAAGTCAT CAAGCCCCAG
 55 CCAACTCAAT TCCCACAGAG CCAAAGCCCT TAAAGGTAG AAGGCCCAGC GGGGAGACAA AACAAGAAG
 GCTGGAACCC AAAGCAATCA TCTCTTAGT GGAAACTATT CTAAAGAAG ATCTTGATGG CTAATGACAT
 TTGCAACTGC CTCATCTTT CTCAGGGGCC TTTCACTTAC ATTGTACCA ATGTTGCTG GAGGTTCTGA ACCTCCTGT
 GGGCTAGTGT TATCACCATC ACCATTTTAC CTAAGTAGCT CTGTTGCTCG GCCACAGTGA CCGTAAATAG
 60 ACCTGAAGCT GGAACCCATG TCTAATAGTG TCAGGTCCAG TGTCTTAGC CACCCCACTC CCAGCTTCAT
 CCCTACTGGT GTTGTATCA GACTTTGACC GTATATGCTC AGGTGTCCTC CAAGAAATCA AATTTTGCCA
 CCTCGCCTCA CGACGCTGCT CCTCTGATT TTATACCTAA ACAACATGTG CTCCACATTT CAGAACCTAT
 CTTCTTCGAC ACATGGGATA ACGAGGCTTA TGTGCACGAT GCACCTGTAC GATCACTGAA CTGCACGCTC

004040 6296466

CGGGACTCAC AGCAAAAAAG CTTGGTGTATG TCTGGTCCAT ATGAACTGAA AGCTCTCCAC CTCCAGGGAC
 AGGATATGGA GCAACAAGGT AAATGGAAAC ATCTGGTTT CCCTGCCTGG CCTCCTGGCA GCTTGCTAAT
 TCTCCATGTT TTAACAAGT TAGAAAGTTA ATTTAAGGCA AATGATCAAC ACAAGTGAAA AAAAATATTA
 AAAAGGAATA TACAACCTT GGTCCAGTAA ATGGCACATT TGATTGCACT GGCCAGTGCA TTTGTAAACA
 5 GGAGTGTGAC CCTCAGAAAT TAGACGGCTC AAGCACTCCC AGGACCATGT CCACCCAAGT CTCTTGGGCA
 TAGTGCAGTG TCAATTCTTC CACAATATGG GGTCAITTTGA TGGACATGGC CTAAGTGCCT GTGGGTTCTC
 TCTTCCTGTT GTTGAGGCTG AAACAAGAGT GCTGGAGCGA TAATGTGTCC ATCCCCCTCC CCAGTCTTCC
 CCCCTTGCCC CAACATCCGT CCCACCCAAT GCCAGGTGGT TCCTTGTAGG GAAATTTTAC CGCCACGACG
 GAACCTATAT CTCTCCGCTG TAACGGGCAA AAGTTTCAAG TGCGGTGAAC CCATCATTAG CTGTGGTGAT
 10 CTGCCTGGCA TCGTGCCACA GTAGCCAAAG CCTCTGCACA GGAGTGTGGG CAACTAAGGC TGCTGACTTT
 GAAGGACAGC CTCATCAGG GGAAGCTAT TGTCTCTCAG CCAGGCCAAG AAAATCCTGT TTCTTTGGAA
 TCGGGTAGTA AGAGTGATCC CAGGGCCTCC AATTGACACT GCTGTGACTG AGGAAGATCA AAATGAGTGT
 CTCTCTTTGG AGCACTTTC CCAGCTCAGC CTCTCTCTC CCAGTTTCTT CCCATGGGCT ACTCTCTGTT
 CCTGAAACAG TTTGGTGCC TGATTTCTGG CAGAAGTACA GCTTCACCTC TTCTCTTCC TTCCACATTG
 15 ATCAAGTTGT TCCCCTCCTG TGGATGGGCA CATTGCCAGC CAGTGACACA ATGGCTTCTT TCCTTCTTCC
 CTTCAGCATT TAAATGTAG ACCCTCTTTC ATTCTCCGTT CCTACTGCTA TGAGGCTCTG AGAAACCTCT
 AGGCCTTTGA GGGGAAACCC TAAATCAACA AAATGACCCT GCTATTGTCT GTGAGAAGTC AAGTTATCCT
 GTGTCTTAGG CCAAGGAACC TCACTGTGGG TTCCCAAGA GGCTACCAAT TACATGTATC CTACTCTCGG
 GGCTAGGGGT TGGGTGAGC CTGCATGCTG TGTCCTTAAC CACAAGACCC CCTTCTTCT TCAGTGGTGT
 20 TCTCCATGTC CTTTGTACAA GGAGAAGAAA GTAATGACAA AATACCTGTG GCCTTGGGCC TCAAGGAAAA
 GAATCTGTAC CTGTCTGCG TGTGAAAGA TGATAAGCCC ACTCTACAGC TGGAGGTAAG TGAATGCTAT
 GGAATGAAGC CCTCTCAGC CTCCTGCTAC CACTTATTC CAGACAATTC ACCTTCTCCC CGCCCCATC
 CCTAGGAAAA GCTGGGAACA GGTCTATTG ACAAGTTTTC CATTAAATGTA AATAAATTTA ACATAATTTT
 TAACTGCGTG CAACCTTCAA TCCTGCTGCA GAAAATTAAT TCATTTTGCC GATGTTATTA TGTCCACCA
 25 TAGTTACAAC CCCACAGAT TATATATTGT TAGGGCTGCT CTCATTTGAT AGACACCTTG GGAAATAGAT
 GACTTAAAGG GTCCTATTAT CACGTCCACT CCCTCCCAA AATCACCACC ACTATCACCT CCAGCTTCTT
 CAGCAAAAGC TTCATTCCA AGTTGATGTC ATTCTAGGAC CATAAGGAAA AATACAATAA AAAGCCCCTG
 GAAACTAGGT ACTTCAAGAA GCTCTAGCTT AATTTTCACC CCCCCAAAAA AAAAAAATTC TCACCTACAT
 TATGCTCCTC AGCATTTGGC ACTAAGTTTT AGAAAAGAAG AAGGGCTCTT TTAATAATCA CACAGAAAAGT
 30 TGGGGGCCCA GTTCAAACTC AGGAGTCTGG CTCCTGATCA TGTGACCTGC TCGTCAGTTT CCTTCTGCG
 CAACCCAAAG AACATCTTTC CCATAGGCAT CTTGTCCCT TGCCCCACAA AAATTCTTCT TTCTCTTCG
 CTGCAGAGTG TAGATCCCAA AAATTACCCA AAGAAGAAGA TGGAAAAGCG ATTTGTCTTC AACAAGATAG
 AAATCAATAA CAAGCTGGAA TTTGAGTCTG CCCAGTTCCC CAACTGGTAC ATCAGCACCT CTCAAGCAGA
 AAACATGCCC GTCCTCTGG GAGGACCAA AGGCGGCCAG GATATAACTG ACTTCACCAT GCAATTTGTG
 35 TCTTCTTAAA GAGAGCTGTA CCCAGAGAGT CCGTGTGCTA ATGTGGACTG AATCCCTAGG CTGCGCAGAA
 AGGGAACAGA AAGTTTGTG AGTACGGCTA TAGCCTGGAC TTTCTGTG TCTACACCAA TGCCCAACTG
 CCTGCCTTAG GGTGTGCTA AGAGGATCTC CTGTCCATCA GCCAGGACAG TCAGCTCTCT CTTTCAGGG
 CCAATCCCCA GCCCTTTTGT TGAGCCAGGC CTCTCTCACC TCTCCTACTC ACTTAAAGCC CGCCTGACAG
 AAACCACGGC CACATTTGGT TCTAAGAAAC CCTCTGTCAT TCGCTCCAC ATTCGTATGA GCAACCGCTT
 40 CCCTATTTAT TTATTTATTT GTTGTGTTGT TTTGATTCTT TGGTCTAATT TATTCAAAGG GGGCAAGAAG
 TAGCAGTGTC TGTAAAGAG CCTAGTTTTT AATAGCTATG GAATCAATTC AATTGGACTT GGTGTGCTCT
 CTTTAAATCA AGTCCTTTAA TTAAGACTGA AAATATATAA GCTCAGATTA TTTAAATGGG AATATTTATA
 AATGACAAA TATCTACTG TTCAATGGTT CTGAATATAA CTTCACTGAA GAAAAAATAA AAAGGTTCTC
 TCCTGATCAT TGACTGTCTG GATTGACACT GACAGTAAGC AAACAGGCTG TGAGAGTTCT TGGGACTAAG
 45 CCCACTCCTC ATTGCTGAGT GCTGCAAGTA CCTAGAAATA TCCTTGGCCA CCGAAGACTA TCCTCCTCAC
 CCATCCCCTT TATTICGTG TTCAACAGAA GGATATTCAG TGCACATCTG GAACAGGATC AGCTGAAGCA
 CTGCAGGGAG TCAGGACTGG TAGTAACAGC TACCATGATT TATCTATCAA TGCACCAAAC ATCTGTGAG
 CAAGCGCTAT GTACTAGGAG CTGGGAGTAC AGAGATGAGA ACAGTCACAA GTCCCTCCTC AGATAGGAGA
 GGCAGCTAGT TATAAGCAGA ACAAGGTAAC ATGACAAGTA GAGTAAGATA GAAGAACGAA GAGGAGTAGC
 50 CAGGAAGGAG GGAGGAGAAC GACATAAGAA TCAAGCCTAA AGGGATAAAC AGAAGATTTC CACAGATGGG
 CTGGGCCAAT TGGGTGTGCG TTACGCTGT AATCCACAGA CTTTGGGTGG CAGGGGCAGA AAGATCGCTT
 GAGCCAGGA GTTCAAGACC AGCCTGGGCA ACATAGTGAG ACTCCCATCT CTACAAAAAA TAAATAAATA
 AATAAAACAA TCAGCCAGGC ATGCTGGCAT GCACCTGTAG TCCTAGCTAC TTGGGAAGCT GACACTGGAG
 GATTGCTTGA GCCCAGAAGT TCAAGACTGC AGTGAGCTTA TCCGTTGACC TGCAGGTCGA C-3' (FRAG.
 55 NO:) (SEQ. ID NO:2512)
 5'-ACAAACCTTT TCGAGGCAAA AGGCAAAAAA GGCTGCTCTG GGATTCTCTT CAGCCAATCT TCAATGCTCA
 AGTGTCTGAA GCAGCCATGG CAGAAGTACC TAAGCTCGCC AGTGAAATGA TGGCTTATTA CAGTGGCAAT
 GAGGATGACT TGTCTTTGA AGCTGATGGC CTTAAACAGA TGAAGTGCTC CTTCCAGGAC CTGGACCTCT
 GCCCTCTGGA TGGCGGCATC CAGCTACGAA TCTCCGACCA CCACTACAGC AAGGGCTTCA GGCAGGCCGC
 60 GTCAGTTGTT GTGGCCATGG ACAAGCTGAG GAAGATGCTG GTTCCCTGCC CACAGACCTT CCAGGAGAAT
 GACCTGAGCA CCTCTTTCC CTTTCATCTT GAAGAAGAAC CTATCTTCTT CGACACATGG GATAACGAGG
 CTTATGTGCA CGATGCACCT GTACGATCAC TGAATGCAC GCTCCGGGAC TCACAGCAAA AAAGCTTGGT

CGGGACTCAC AGCAAAAAAG CTTGGTGTATG TCTGGTCCAT ATGAACTGAA AGCTCTCCAC CTCCAGGGAC

GATGTCTGGT CCA1ATGAAC TGAAAGCTCT CCACCTCCAG GGACAGGATA TGGAGCAACA AGTGGTGTTC
 TCCATGTCTT TTGTACAAGG AGAAGAAAAGT AATGACAAAA TACCTGTGGC CTGGGGCCTC AAGGAAAAAGA
 ATCTGTACCT GTCTTGCCTG TTGAAAGATG ATAAGCCAC TCTACAGCTG GAGAGTGTAG ATCCCCAAAA
 TTACCCAAAAG AAGAAGATGG AAAAGCGATT TGTCTTCAAC AAGATAGAAA TCAATAACAA GCTGGAATTT
 5 GAGTCTGCCC AGT1CCCCAA CTGGTACATC AGCACCTCTC AAGCAGAAAA CATGCCCGTC TTCCTGGGAG
 GGACCAAAGG CGG3CAGGAT ATAAGTACT TCACCATGCA ATTTGTGTCT TCCTAAAGAG AGCTGTACCC
 AGAGAGTCTT GTGCTGAATG TGGACTCAAT CCCTAGGGCT GGCAGAAAGG GAACAGAAAG GTTTTTGAGT
 ACGGCTATAG CCTGACTTTT CCTGTGTCT ACACCAATGC CCAACTGCCT GCCTTAGGGT AGTGCTAAGA
 10 GGATCTCCTG TCCA1TCAGCC AGGACAGTCA GCTCTCTCCT TTCAGGGCCA ATCCCAGCCC TTTTGTGAG
 CCAGGCCTCT CTC1CCTCT CTACTCACTT AAAGCCCGCC TGACAGAAAC CAGGCCACAT TTTGGTCTA
 AGAAACCCCT CTC1GTCATT CGCTCCCA CAACCGCTTC CCTATTTATT TATTTATTTG
 TTTGTTTGT TTGA1TCATT GGTCTAATT ATTCAAAGG GGCAAGAAAT AGCAGTGTCT GTAAAGAGC
 CTAGTTTTTA ATAC1CTATG AATCAATTCA ATTTGGACTG GTGTGCTCTC TTTAAATCAA GTCCTTTAAT
 TAAGACTGAA AAT1ATATAAG CTCAGATTAT TTAAATGGGA ATATTTATAA ATGAGCAAAT ATCATACTGT
 15 TCAATGGTTC TCAA1TAAAC TTCCT-3' (FRAG. NO:)(SEQ. ID NO:2513)
 5'-CTGGCAGGAG TA3CAGCTGC CCCTGGGCGC GACTGCTGGA GCCGCGAACT AGAGAAACAC AGACACGCCT
 CATAGAGCAA CGG1GCTCTCT CGGAGCGTGG AGCCCGCCAA GCTCGAGCTG AGCTTTGCTG TGCCGTCCAC
 CACTGCCCAC ACT1TCGTTT GCTGCCATCG CAGACCTGCT GCTGACTTCC ATCCCTCTGG ATCCGGCAAG
 GGCCTGCGAT TTTCACAATG TCAAGATTAA CCGTATATCC CTGTTTGTTC GGATACACCA GTGACGTCCA
 20 CTTCTAGAAG ACA1AGTTAT ATTACTTAA CAACCAAGA TATGAACTA TCCATGAAGA ACAATATTAT
 CAATACACAG CAG1CTTTTG TAACCATGCC CAATGTGATT GTACCAGATA TTGAAAAGGA AATACGAAGG
 ATGAAAAATG GAG1CATGCAG CTCCTTTTCT GAGGATGATG ACAGTGCCTC TACATCTGAA GAATCAGAGA
 ATGAAAACCC TCA1GCAAGG GGTTCCTTTA GTTATAAGTC ACTCAGAAAG GGAGGACCAT CACAGAGGGA
 GCAGTACCTG CCT1GTGCCA TTGCCATTTT TAATGTGAAC AACAGCGACA ATAAGGACCA GGAACCAGAA
 25 GAAAAAAGA AAA1AGAAAA AGAAAAGAAG AGCAAGTCAG ATGATAAAAA CGAAAAATAA AACGACCCAA
 AGAAGAAGAT GGAA1AGCGA-3' (FRAG. NO:)(SEQ. ID NO:2514)
 5'-ATGGCCAAAG TT1CAGACAT GTTTGAAGAC CTGAAGAACT GTTACAGTGA AAATGAAGAA GACAGTTCCT
 CCATTGATCA TCT1CTCTG AATCAGAAAT CCTTCTATCA TGTAAGCTAT GGCCCACTCC ATGAAGGCTG
 CATGGATCAA TCT1TGCTCT TGAGTATCTC TGAAACCTCT AAAACATCCA AGCTTACCTT CAAGGAGAGC
 30 ATGGTGGTAG TAG1AACCAA CGGGAAGGTT CTGAAGAAGA GACGGTTGAG TTAAAGCCAA TCCATCACTG
 ATGATGACCT GGAG1GCCATC GCCAATGACT CAGAGGAAGA AATCATCAAG CCTAGGTCAG CACCTTTTAG
 CTTCTGAGC AAT1TGAAAT ACAACTTTAT GAGGATCATC AAATACGAAT TCATCCTGAA TGACGCCCTC
 AATCAAAGTA TAA1TCGAGC CAATGATCAG TACCTCACGG CTGCTGCATT ACATAATCTG GATGAAGCAG
 TGAAATTTGA CAT1GGTGCT TATAAGTCAT CAAAGGATGA TGCTAAATTT ACCGTGATTC TAAGAATCTC
 35 AAAAACTCAA TTG1ATGTGA CTGCCCAAGA TGAAGACCAA CCAGTGCTGC TGAAGGAGAT GCCTGAGATA
 CCAAAACCA TCAC1AGGTAG TGAGACCAAC CTCCTCTTCT TCTGGGAAAC TCACGGCACT AAGAACTATT
 TCACATCAGT TGCC1CATCCA AACTTGTTTA TTGCCACAAA GCAAGACTAC TGGGTGTGCT TGGCAGGGGG
 GCCACCCTCT ATCA1CTGACT TTCAGATACT GGAACACCAG GCGTAGGTCT GGAGTCTCAC TTGTCTACT
 TGTGCACTGT TGAC1AGTTCA TATGTACCAT GTACATGAAG AAGCTAAATC CTTTACTGTT AGTCATTTGC
 40 TGAGCATGTA CTGA1GCCTTG TAATTCTAAA TGAATGTTA CACTCTTGT AAGAGTGGAA CCAACACTAA
 CATATAATGT TGT1ATTTAA AGAACACCCT ATATTTTGCA TAGTACCAAT CATTTTAATT ATTATTCTC
 ATAACAATTT TAGGAGGACC AGAGCTACTG ACTATGGCTA CCAAAAAGAC TCTACCCATA TTACAGATGG
 GCAAAATTAAG GCATAAGAAA ACTAAGAAAT ATGCACAATA GCAGTTGAAA CAAGAAGCCA CAGACCTAGG
 ATTTATGAT TTCA1TTCAA CTGTTTGCTT TCTGCTTTTA AGTTGCTGAT GAACTCTTAA TCAAATAGCA
 45 TAAGTTTCTG GGAC1CTCAG TTTATCATTT TCAAAATGGA GGAATAATA CCTAAGCCTT CTGCCGCAA
 CAGTTTTTTA TGCT1AATCAG GGAGGTCATT TTGGTAAAT ACTTCTCGAA GCCGAGCCTC AAGATGAAGG
 CAAAGCACGA AAT1GTTATTT TTTAATTATT ATTTATATAT GTATTTATAA ATATATTTAA GATAATTATA
 ATATACTATA TTTA1GGGAA CCCCTTCATC CTCTGAGTGT GACCAGGCAT CCTCCACAAT AGCAGACAGT
 GTTTTCTGGG ATA1GTAAGT TTGATTTTAT TAATACAGGG CATTTTGGTC CAAGTTGTGC TTATCCATA
 50 GCCAGGAAAC TCT1GATTCT AGTACTTGGG AGACCTGTAA TCATATAATA AATGTACATT AATTACCTTG
 AGCCAGTAAT TGG1CCGATC TTTGACTCTT TTGCCATTAA ACTTACCTGG GCATTCTTGT TTCATTCAAT
 TCCACCTGCA ATCAAGTCTT ACAAGCTAAA ATTAGATGAA CTCAACTTGG ACAACCATAG ACCACTGTTA
 TCAAACTTT CTT1TCTGGA ATGTAATCAA TGT1TCTTCT AGGTTCTAAA AATTGTGATC AGACCATAAT
 GTTACATTAT TATCA1CAAT AGTGATTGAT AGAGTGTAT CAGTCATAAC TAAATAAAGC TTGCAAGTGA
 55 GGGAGTCATT TCATTGGCGT TTGAGTCAGC AAAGAAGTCA AG-3' (FRAG. NO:)(SEQ. ID NO:2515)
 5'-AGCTGCCAGC CAGAGAGGGA GTCATTTTAT TGGCGTTTGA GTCAGCAAAG AAGTCAAGAT GGCCAAAGTT

004040 " 5294560

CCAGACATGT TTGAAGACCT GAAGAACTGT TACAGTGAAA ATGAAGAAGA CAGTTCCTCC ATTGATCATC
 TGTCTCTGAA TCACAAATCC TTCTATCATG TAAGCTATGG CCCACTCCAT GAAGGCTGCA TGGATCAATC
 TGTGTCTCTG AGTATCTCTG AAACCTCTAA AACATCCAAG CTTACCTTCA AGGAGAGCAT GGTGGTAGTA
 GCAACCAACG GGAAGGTTCT GAAGAAGAGA CGGTTGAGTT TAAGCCAATC CATCACTGAT GATGACCTGG
 5 AGGCCATCGC CAAAGACTCA GAGGAAGAAA TCATCAAGCC TAGGTCATCA CCTTTTAGCT TCCTGAGCAA
 TGTGAAATAC AACCTTATGA GGATCATCAA ATACGAATTC ATCCTGAATG ACGCCCTCAA TCAAAGTATA
 ATTCGAGCCA ATGATCAGTA CCTCACGGCT GCTGCATTAC ATAATCTGGA TGAAGCAGTG AAATTTGACA
 TGGGTGCTTA TAATCATCA AAGGATGATG CTAATAATTAC CGTGATTCTA AGAATCTCAA AAATCAATT
 GTATGTGACT GCCCAAGATG AAGACCAACC AGTGCTGCTG AAGGAGATGC CTGAGATACC CAAAACCATC
 10 ACAGGTAGTG AGACCAACCT CCTCTCTTC TGGGAACTC ACGGCACTAA GAACTATTTC ACATCAGTTG
 CCCATCCAAA CTTCTTTATT GCCACAAAGC AAGACTACTG GGTGTGCTTG GCAGGGGGGC CACCCTCTAT
 CACTGACTTT CAGATACTGG AAAACCAGGC GTAGGTCTGG AGTCTCACTT GTCTCACTTG TGCAGTGTG
 ACAGTTCATA TGTCCATGT ACATGAAGAA GCTAAATCCT TTAATGTTAG TCATTTGCTG AGCATGTACT
 GAGCCTTGTA ATTCTAAATG AATGTTTACA CTCTTTGTAA GAGTGGAACC AACACTAACA TATAATGTTG
 15 TTATTTAAAG AACACCTAT ATTTTGCATA GTACCAATCA TTTTAATTAT TATCTTCAT AACAAATTTA
 GGAGGACCAG AGCTACTGAC TATGGCTACC AAAAAGACTC TACCCATATT ACAGATGGGC AAATTAAGGC
 ATAAGAAAAC TAAGAAATAT GCACAATAGC AGTCGAAACA AGAAGCCACA GACCTAGGAT TTCATGATTT
 CATTTCAACT GTTTCCTTC TGCTTTTAAAG TTGCTGATGA ACTCTTAATC AAATAGCATA AGTTTCTGGG
 ACCTCAGTTT TATCATTTTC AAAATGGAGG GAATAATACC TAAGCCTTCC TGCCGCAACA GTTTTTATG
 20 CTAATCAGGG AGGTCATTTT GGTAAAATAC TTCTCGAAGC CGAGCCTCAA GATGAAGGCA AAGCACGAAA
 TGTATTTTT TAATATTAT TTATATATGT ATTTATAAAT ATATTAAAGA TAATTATAAT ATACTATATT
 TATGGGAACC CCTTCATCCT CTGAGTGTGA CCAGGCATCC TCCACAATAG CAGACAGTGT TTTCTGGGAT
 AAGTAAGTTT GATTCATTA ATACAGGGCA TTTTGGTCCA AGTTGTGCTT ATCCCATAGC CAGGAACTC
 TGCATTCTAG TACTGGGAG ACCTGTAATC ATATAATAAA TGTACATTAA TTACCTTGAG CCAGTAATTG
 25 GTCCGATCTT TGACTCTTTT GCCATTAAAC TTACCTGGGC ATTCTTGTTT CATTCAATTC CACCTGCAAT
 CAAGTCCTAC AAGCTAAAT TAGATGAACT CAACCTTGAC AACCATGAGA CCACTGTTAT CAAAACCTTC
 TTTCTGGAA TGTATCAAT GTTCTTCTA GGTCTAAAA ATTGTGATCA GACCATAATG TTACATTATT
 ATCAACAATA GTGATGATA GAGTGTTATC AGTCATAACT AAATAAAGCT TGCAACAAAA TTCTCTG-3' (FRAG.
 NO:) (SEQ. ID NO:2515)

30 **Human Interleukin-1 Receptor (IL-1 R) Nucleic Acids and Anti-sense Oligonucleotide Fragments**

5'-GCCACGTGCT GCTGGGTCTC AGTCTCCAC TTCCGTGTC CTCTGGAAGT TGTCAGGAGC AATGTTGCGC
 TTGTACGTGT TGGTAATGGG AGTTTCTGCC TTCACCTTC AGCCTGCGGC ACACACAGGG GCTGCCAGAA
 GCTGCCGTT TCGTGGGAGG CATTACAAGC GGGAGTTCAG GCTGGAAGGG GAGCCTGTAG CCCTGAGGTG
 35 CCCCCAGGTG CCTACTGGT TGTGGGCCTC TGTCAGCCCC CGCATCAACC TGACATGGCA TAAAAATGAC
 TCTGCTAGGA CGGTCCCAGG AGAAGAAGAG ACACGGATGT GGGCCCAGGA CGGTGCTCTG TGGCTTCTGC
 CAGCCTTGCA GGAAGACTCT GGCACCTACG TCTGCACTAC TAGAAATGCT TCTTACTGTG ACAAATGTC
 CATTGAGCTC AGAGTTTTTG AGAATACAGA TGCTTCTCTG CCGTTCATCT CATACCCGCA AATTTTAACC
 TTGTCAACCT CTGGGGTATT AGTATGCCCT GACCTGAGTG AATTACCCG TGACAAAAT GACGTGAAGA
 TTCAATGGTA CAACGATTCT CTCTTTTGG ATAAAGACAA TGAGAAATTT CTAAGTGTGA GGGGACCAC
 40 TCACTTACTC GTACACGATG TGGCCCTGGA AGATGCTGGC TATTACCGCT GTGTCTGAC ATTTGCCCAT
 GAAGGCCAGC AATACAACAT CACTAGGAGT ATTGAGCTAC GCATCAAGAA AAAAAAGAA GAGACATTTC
 CTGTGATCAT TTCCCCCTC AAGACCATAT CAGCTTCTCT GGGGTCAAGA CTGACAATCC CGTGTAAGGT
 GTTTCTGGGA ACCGACAC CTTAACCAC CATGCTGTGG TGGACGGCCA ATGACACCCA CATAGAGAGC
 GCCTACCCGG GAGCCGCGT GACCGAGGGG CCACGCCAGG AATATTCAGA AAATAATGAG AACTACATTG
 45 AAGTGCCATT GATTTTGAT CCTGTCACAA GAGAGGATTT GCACATGGAT TTTAAATGTG TTGTCCATAA
 TACCCTGAGT TTTCAGACAC TACGCACCAC AGTCAAGGAA GCCTCTCCA CGTCTCTCTG GGGGATTGTG
 CTGGCCCCAC TTTCACTGGC CTTCTTGGT TTGGGGGGA TATGGATGCA CAGACGGTGC AAACACAGAA
 CTGAAAAGC AGATGGTCTG ACTGTGCTAT GGCCTCATCA TCAAGACTTT CAATCCTATC CCAAGTGAAA
 TAAATGGAAT GAAATTAATC AAACACAAAA AAAAAAAAAA AAAAAAAA GCCGGAGCCG ACTCGGAGCG
 50 CGCGGCGCGG CCGGAGGAG CCGAGCGCGC CGGGCGCGGC GTGGGGGCGC CGGCTGCCCC GCGCGCCCAG
 GGAGCGGCAG GAAATGTGACA ATCGCGCGCC CGCACCGTAG CACTCCTCGC TCGGCTCCTA GGGCTCTCGC
 CCTCTGAGCT GAGCCGGGTT CCGCCCGGGC TGGGATCCCA TCACCCTCCA CGGCCGTCCG TCCAGGTAGA
 CGCACCTCT GAAATATGGTG ACTCCCTCCT GAGAAGCTGG ACCCCTTGGT AAAAGACAAG GCCTTCTCCA
 AGAAGAATAT GAAAGTGTTA CTCAGACTTA TTGTCTTCTC ATTTCTTCTC TGGAGGCTGA
 55 TAAATGCAAG GAACTGTGAAG AAAAAATAAT TTAGTGTCA TCTGCAAAATG AAATTGATGT TCGTCCCTGT

CCTCTTAACC CAAATGAACA CAAAGGCACT ATAACCTGGT ATAAAGATGA CAGCAAGACA CCTGTATCTA
 CAGAACAAGC CTCCAGGATT CATCAACACA AAGAGAAACT TTGGTTTGGT CCTGCTAAGG TGGAGGATTC
 AGGACATTAC TATTGCGTGG TAAGAAATTC ATCTTACTGC CTCAGAATTA AAATAAGTGC AAAATTTGTG
 5 GAGAATGAGC CTAACCTTATG TTATAATGCA CAAGCCATAT TTAAGCAGAA ACTACCCTTT GCAGGAGACG
 GAGGACTTGT GTGCCTTAT ATGGAGTTTT TAAAAAATGA AAATAATGAG TTACCTAAAT TACAGTGGTA
 TAAGGATTGC AAACTCTAC TTCTTGACAA TATACACTTT AGTGGAGTCA AAGATAGGCT CATCGTGATG
 AATGTGGCTG AAAAGCATAG AGGGAACAT ACTTGTCATG CATCCTACAC ATACTTGGGC AAGCAATATC
 CTATTACCCG GGTAATAGAA TTTATTACTC TAGAGGAAAA CAAACCCACA AGGCCTGTGA TTGTGAGCCC
 10 AGCTAATGAG ACAATGGAAG TAGACTTGGG ATCCCAGATA CAATTGATCT GTAATGTCAC CGGCCAGTTG
 AGTGACATTG CTTACTGGAA GTGGAATGGG TCAGTAATTG ATGAAGATGA CCCAGTGCTA GGGGAAGACT
 ATTACAGTGT GGAAATCCCT GCAAAACAAA GAAGGAGTAC CCTCATCACA GTGCTTAATA TATCGGAAAT
 TGAAAGTAGA TTTIATAAAC ATCCATTAC CTGTTTGGC AAGAATACAC ATGGTATAGA TGCAGCATAT
 ATCCAGTTAA TATATCCAGT CACTAATTTT CAGAAGCACA TGATTGGTAT ATGTGTCACG TTGACAGTCA
 15 TAATTGTGTG TTCTGTTTTC ATCTATAAAA TCTCAAGAT TGACATTGTG CTTTGGTACA GGGATTCTCTG
 CTATGATTTT CTCCCAATAA AAGCTTCAGA TGGAAAGACC TATGACGCAT ATATACTGTA TCCAAAGACT
 GTTGGGGAAG GGTCTACCTC TGACTGTGAT ATTTTGTGT TTAAGTCTT GCCTGAGGTC TTGGA AAAAC
 AGTGTGGATA TAACCTGTTT ATTTATGGAA GGGATGACTA CGTTGGGGAA GACATTGTTG AGGTCATTAA
 TGAAAACGTA AAGAAAGCA GAAGACTGAT TATCATTTTA GTCAGAGAAA CATCAGGCTT CAGCTGGCTG
 GGTGGTTTAC CTGAAGAGCA AATAGCCATG TATAATGCTC TTGTTCAAGG TGAATTAAG GTTGTCTCTG
 20 TTGAGCTGGA GAAATCCAA GACTATGAGA AAATGCCAGA ATCGATTAAA TTCATTAAAG AGAAACATATG
 GGCTATCCGC TGGTCAGGGG ACTTTACACA GGGACCACAG TCTGCAAAGA CAAGGTTCTG GAAGAATGTC
 AGGTACCACA TGCCAGTCCA GCGACGGTCA CCTTCATCTA AACACCAGTT ACTGTCACCA GCCACTAAGG
 AGAACTGCA AAGAAGGCT CACGTGCCTC TCGGGTAGCA TGGAGAAGTT GCCAAGAGTT CTTTAGGTGC
 CTCCTGTCTT ATGGCGTTC AGGCCAGGT ATGCCTCATG CTGACTTGCA GAGTTCATGG AATGTAAC TA
 25 TATCATCCTT TATCCCTGAG GTCACCAGGA ATCAGG-3' (FRAG NO:)(SEQ. ID NO:2520)
 5'-GCCACGTGCT GCTGGGTCTC AGTCCTCCAC TTCCCGTGTC CTCTGGAAGT TGTCAGGAGC AATGTTGCGC
 TTGTACGTGT TGGTAATGGG AGTTTCTGCC TTCACCCTTC AGCCTGCGGC ACACACAGGG GCTGCCAGAA
 GCTGCCGGTT TCGTGGGAGG CATTACAAGC GGGAGTTCAG GCTGGAAGGG GAGCCTGTAG CCCTGAGGTG
 30 CCCCCAGGTG CCTACTGGT TGTGGGCCTC TGTCAGCCCC CGCATCAACC TGACATGGCA TAAAAATGAC
 TCTGCTAGGA CGGTCCCAGG AGAAGAAGAG ACACGGATGT GGGCCCAGGA CGGTGCTCTG TGGCTTCTGC
 CAGCCTTGCA GGACGACTCT GGCACCTACG TCTGCACTAC TAGAAATGCT TCTTACTGTG ACAAATGTC
 CATTGAGCTC AGACTTTTGT AGAATACAGA TGCTTCTCTG CCGTTCATCT CATACCCGCA AATTTTAACC
 TTGTCAACCT CTGGGGTATT AGTATGCCCT GACCTGAGTG AATTCACCCG TGACAAAAC GACGTGAAGA
 TTCAATGGTA CAACGATTCT CTTCTTTTGG ATAAAGACAA TGAGAAATTT CTAAGTGTGA GGGGGACCAC
 35 TCACTTACTC GTACACGATG TGGCCCTGGA AGATGTGGC TATTACCGCT GTGTCCTGAC ATTTGCCCAT
 GAAGGCAGC AATAACAACAT CACTAGGAGT ATTGAGCTAC GCATCAAGAA AAAAAAAGAA GAGACCATTC
 CTGTGATCAT TTCCCTCCTC AAGACCATAT CAGCTTCTCT GGGGTCAAGA CTGACAATCC CGTGTAAAGGT
 GTTTCTGGGA ACCGGCACAC CCTTAACCAC CATGCTGTGG TGGACGCCA ATGACACCA CATAGAGAGC
 GCCTACCCGG GAGCCGCGT GACCGAGGGG CCACGCCAGG AATATTCAGA AAATAATGAG AACTACATTG
 40 AAGTGCCATT GATTTTGTAT CCGTGCACAA GAGAGGATTT GCACATGGAT TTTAAATGTG TTGTCCATAA
 TACCCTGAGT TTTCAGACAC TACGCACCAC AGTCAAGGAA GCCTCCTCCA CGTTCTCTG GGGCATTGTG
 CTGGCCCCAC TTTCATGGC CTTCTTGGTT TTGGGGGAA TATGGATGCA CAGACGGTGC AAACACAGAA
 CTGGA AAAAGC AGAAGGTCTG ACTGTGCTAT GGCTCATCA TCAAGACTTT CAATCCTATC CCAAGTGAAA
 TAAATGGAAT GAAATTAATTC AAACACAAAA AAAAAAAAAA AAAAAAA-3' (FRAG. NO:)(SEQ. ID NO:2518)
 45 5'-GCCGAGACCG ACCTGGAGCG CGCGGCGCGG CCGGAGGAG CCGAGCGCGC CGGGCGCGGC GTGGGGGCGC
 CGGCTGCCCC GCGCGCCAG GGAGCGGCAG GAATGTGACA ATCGCGCGCC CGCACCGTAG CACTCCTCGC
 TCGGCTCCTA GGGCTCTCGC CCTCTGAGCT GAGCCGGGTT CCGCCCGGGC TGGGATCCCA TCACCCTCCA
 CGGCCGTCCG TCCAGGTAGA CGCACCTCT GAAGATGGTG ACTCCCTCCT GAGAAGCTGG ACCCCTTGGT
 AAAAGACAAG GCCCTCTCCA AGAAGAATAT GAAAGTGTTA CTCAGACTTA TTTGTTTCAT AGCTCTACTG
 50 ATTTCTTCTC TGGAGGCTGA TAAATGCAAG GAACGTGAAG AAAAAATAAT TTTAGTGTCA TCTGCAAAATG
 AAATTGATGT TCGTCCCTGT CCTCTTAACC CAAATGAACA CAAAGGCACT ATAACCTGGT ATAAAGATGA
 CAGCAAGACA CCTCTATCTA CAGAACAAGC CTCCAGGATT CATCAACACA AAGAGAAACT TTGGTTTGTG
 CCTGCTAAGG TGGAGGATTG AGGACATTAC TATTGCGTGG TAAGAAATTC ATCTTACTGC CTCAGAATTA
 AAATAAGTGC AAAATTTGTG GAGAATGAGC CTAACCTATG TTATAATGCA CAAGCCATAT TTAAGCAGAA
 55 ACTACCCTGT GCACGAGACG GAGGACTTGT GTGCCCTTAT ATGGAGTTT TTA AAAATGA AAATAATGAG
 TTACCTAAAT TACAGTGGTA TAAGGATTGC AAACCTCTAC TTCTTGACAA TATACACTTT AGTGGAGTCA
 AAGATAGGCT CATCTGTATG AATGTGGCTG AAAAGCATAG AGGGAACAT ACTTGTCATG CATCCTACAC
 ATACTTGGGC AAGCAATATC CTATTACCCG GCAATAGAA TTTATTACTC TAGAGGAAAA CAAACCCACA
 AGGCCTGTGA TTGTGAGCCC AGCTAATGAG AGTAATGGAAG TAGACTTGGG ATCCCAGATA CAATTGATCT
 60 GTAATGTCAC CGGCAGTTG AGTGACATTG CTTACTGGAA GTGGAATGGG TCAGTAATTG ATGAAGATGA
 CCCAGTGCTA GGGCAAGACT ATTACAGTGT GGA AAATCCT GCAAACAAAA GAAGGAGTAC CCTCATCACA
 GTGCTTAATA TATCGGAAAT TGAAAGTAGA TTTTATAAAC ATCCATTAC CTGTTTGGC AAGAATACAC

ATGGTATAGA TGCA.GCATAT ATCCAGTTAA TATATCCAGT CACTAATTTC CAGAAGCACA TGATTGGTAT
 ATGTGTCACG TTGA.CAGTCA TAATTGTGTG TTCTGTTTTT ATCTATAAAA TCTTCAAGAT TGACATTGTG
 CTTTGGTACA GGGATTCCTG CTATGATTTT CTCCCAATAA AAGCTTCAGA TGGAAAGACC TATGACGCAT
 ATATACTGTA TCCAAAGACT GTTGGGGGAA GGTCTACCTC TGACTGTGAT ATTTTGTGT TTAAGTCTT
 5 GCCTGAGGTC TTGCAAAAAC AGTGTGGATA TAAGCTGTTC ATTTATGGAA GGGATGACTA CGTTGGGGAA
 GACATTGTG AGGTCAATTA TGAACACGTA AAGAAAAGCA GAAGACTGAT TATCATTTTA GTCAGAGAAA
 CATCAGGCTT CAGCTGGCTG GGTGGTTCAT CTGAAGAGCA AATAGCCATG TATAATGCTC TTGTTCAGGA
 TGGAATTAATA GTTC TCCTGC TTGAGCTGGA GAAAAATCAA GACTATGAGA AAATGCCAGA ATCGATTAAA
 TTCATTAAGC AGAAACATGG GGCTATCCGC TGGTCAGGGG ACTTTACACA GGGACCACAG TCTGCAAGA
 10 CAAGGTTCTG GAAACATGTC AGGTACCACA TGCCAGTCCA GCGACGGTCA CCTTCATCTA AACACCAGTT
 ACTGTCACCA GCCACTAAGG AGAACTGCA AAGAGAGGCT CACGTGCCTC TCGGGTAGCA TGGAGAAGTT
 GCCAAGAGTT GTTTAGGTGC CTCCTGTCTT ATGGCGTTGC AGGCCAGGTT ATGCCTCATG CTGACITGCA
 GAGTTCATGG AATGAACTA TATCATCCTT TATCCCTGAG GTCACCAGGA ATCAGG-3' (FRAG. NO:) (SEQ. ID
 NO:2519)

15 Human Interleukin-8* Fragments Antisense Oligonucleotide Fragments

5'-GBTGTTTGT BCBBBGCBT CBBGBBTBGC TTTGCTBTCT BBGGBTCBCB TTBGBCBTB GBBBBBCGCT
 GTBGGTCBGBB BBTGTGCTT BCCTTCBCBC BGBGCTGCBG BBTBCBGGBBGG CTGCCBBGBGBG CCBGCGCCBGC
 TTGGBGTCTB GTTTBCBCBC BGTGBGGTGC TCCGGTGGCT TTTGCTTGT GTGCTCTGT GTCTCTG TTC
 CTTCCGGTGG TTTCTCTCTG GCTCTGTCC TTTCTCTGG CCCTTGGCCC-3' (FRAG. NO:1834) (SEQ. ID NO:1847)
 20 5'-G CTC CGG-3' (FRAG. NO:1835) (SEQ. ID NO:1848)
 5'-CBBGBBTBGC-3' (FRAG. NO:1836) (SEQ. ID NO:1849)
 5'-CBCBC BGTGBGGTGC-3' (FRAG. NO:1837) (SEQ. ID NO:1850)
 5'-BCCBBBGCBT CBBGBBTBGC-3' (FRAG. NO:1838) (SEQ. ID NO:1851)
 5'-GCCBBGBGBG CCBGCGCCBGC-3' (FRAG. NO:1839) (SEQ. ID NO:1852)
 25 5'-GTG CTC CGG TGG CTT TTT-3' (FRAG. NO:1289) (SEQ. ID NO:1298)
 5'-GCT TGT GTG CTC TGC TGT CTC TG-3' (FRAG. NO:1290) (SEQ. ID NO:1299)
 5'-TTC CTT CCG GTG GTT TCT TCC TGG CTC TTG TCC T-3' (FRAG. NO:1291) (SEQ. ID NO:1300)
 5'-TTC TCT TGG CCC TTG GCC C-3' (FRAG. NO:1292) (SEQ. ID NO:1301)
 5'-GBTGTTTGT BCBBBGCBT CBBGBBTBGC TTTGCTBTCT BBGGBTCBCB TTBGBCBTB GBBBBBCGCT
 30 GTBGGTCBGBB BBTGTGCTT BCCTTCBCBC BGBGCTGCBG BBTBCBGGBBGG CTGCCBBGBGBG CCBGCGCCBGC
 TTGGBGTCTB GTTTBCBCBC BGTGBGGTGC TCCGGTGGCT TTTGCTTGT-3' (FRAG. NO:1840) (SEQ. ID NO:1853)

Human IL-8 Receptor Alpha Antisense Oligonucleotide Fragments

5'-ACAGGGGCTG TAATCTTCATC TGCAGGTGGC ATGCCAGTGA AATTTAGATC ATCAAAATCC CACATCTGTG
 GATCTGTAAT ATTGACATG TCCTCTTCAG TTTCAGCAAT GGTGTGATCT AACTGAAGCA CCGGCCAGGB
 35 CBGGGGCTGT BBTCTTCBTC TGCBGGTGGC BTGCCBGTGB BBTBTBGBTC BTCBBBTCC CBCBTCTGTG
 GBTCTGTBBT BTTTBCBTG TCCTCTTCBG TTTCBGCBB TGGTTTGBTC TBBCTGBBG CCGGCCBGG
 TGGCTCGGTG CTTCTGCCCC TGTTGTTGCG GCGCTCGGTT GGTGTGGCCC CTGTGGTGCT TCGTTTCCCC
 CTCTTTCTCT TTGTTGGGG GTTCTGTGG CGGGCTGCTT GTCTCGTTCC-3' (FRAG. NO:1841) (SEQ. ID NO:1854)
 5'-CBGGGGC-3' (FRAG. NO:1842) (SEQ. ID NO:1855)
 40 5'-GCBGGTGGC-3' (FRAG. NO:1843) (SEQ. ID NO:1856)
 5'-GCGGCGCTC-3' (FRAG. NO:1844) (SEQ. ID NO:1857)
 5'-TGGCTCGGTGCTCTGCCCC (FRAG. NO:1293) (SEQ. ID NO:1302)
 5'-TGTTGTTGCGGCGCTC (FRAG. NO:1294) (SEQ. ID NO:1303)
 5'-GGTTGGTGTGGCCCTG (FRAG. NO:1295) (SEQ. ID NO:1304)
 45 5'-TGGTGCTTCGTTTC (FRAG. NO:1296) (SEQ. ID NO:1305)
 5'-CCCTCTTCTCTTTTTC (FRAG. NO:1297) (SEQ. ID NO:1306)
 5'-GGGGGTTCTTGTGGC (FRAG. NO:1298) (SEQ. ID NO:1307)
 5'-GGGCTGCTTGTCTCTGTTCC (FRAG. NO:1299) (SEQ. ID NO:1308)
 5'-ACAGGGGCTG TAATCTTCATC TGCAGGTGGC ATGCCAGTGA AATTTAGATC ATCAAAATCC CACATCTGTG
 50 GATCTGTAAT ATTGACATG TCCTCTTCAG TTTCAGCAAT GGTGTGATCT AACTGAAGCA CCGGCCAGG-3'
 (FRAG. NO:1845) (SEQ. ID NO:1858)
 5'-B CBGGGGCTGT BBTCTTCBTC TGCBGGTGGC BTGCCBGTGB BBTBTBGBTC BTCBBBTCC CBCBTCTGTG
 GBTCTGTBBT BTTTBCBTG TCCTCTTCBG TTTCBGCBB TGGTTTGBTC TBBCTGBBG CCGGCCBGG-3' (FRAG.
 NO:1846) (SEQ. ID NO:1859)

55 Interleukin-11 (IL-11) Nucleic Acid and Antisense Oligonucleotide Fragments

5'-GCTCAGGGCA CAIGCCTCCC CTCCCCAGGC CGCGGCCAG CTGACCCTCG GGGCTCCCC GGCAGCGGAC
 AGGGAAGGGT TAAAGGCCCC CGGCTCCCTG CCCCCTGCCC TGGGGAACCC CTGGCCCTGT GGGGACATGA
 ACTGTGTTTG CCGCTGGTC CTGGTCGTGC TGAGCCTGTG GCCAGATACA GCTGTCGCC CTGGGCCACC

1. <i>Staphylococcus aureus</i> (ATCC 12228) 2. <i>Staphylococcus aureus</i> (ATCC 12228) 3. <i>Staphylococcus aureus</i> (ATCC 12228) 4. <i>Staphylococcus aureus</i> (ATCC 12228) 5. <i>Staphylococcus aureus</i> (ATCC 12228) 6. <i>Staphylococcus aureus</i> (ATCC 12228) 7. <i>Staphylococcus aureus</i> (ATCC 12228) 8. <i>Staphylococcus aureus</i> (ATCC 12228) 9. <i>Staphylococcus aureus</i> (ATCC 12228) 10. <i>Staphylococcus aureus</i> (ATCC 12228)		11. <i>Staphylococcus aureus</i> (ATCC 12228) 12. <i>Staphylococcus aureus</i> (ATCC 12228) 13. <i>Staphylococcus aureus</i> (ATCC 12228) 14. <i>Staphylococcus aureus</i> (ATCC 12228) 15. <i>Staphylococcus aureus</i> (ATCC 12228) 16. <i>Staphylococcus aureus</i> (ATCC 12228) 17. <i>Staphylococcus aureus</i> (ATCC 12228) 18. <i>Staphylococcus aureus</i> (ATCC 12228) 19. <i>Staphylococcus aureus</i> (ATCC 12228) 20. <i>Staphylococcus aureus</i> (ATCC 12228)	
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	32
33	34	35	36
37	38	39	40
41	42	43	44
45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100

[illegible]

CACCCAGCCG CCCC GAGCAG GGA CTGTCAT TCAGGGAGGC TAAGGAGAGA GGCTTGCTTG GGATATAGAA
 AGATATCCTG ACA TGGCCA GGCATGGTGG CTCACGCCTG TAATCCTGGC ACTTTGGGAG GACGAAGCGA
 GTGGATCACT GAAC TCCAAG AGTTTGAGAC CGGCCTGCGA GACATGGCAA AACCTGTCT CAAAAAAGAA
 AGAATGATGT CCT CACATGA AACAGCAGGC TACAAAACCA CTGCATGCTG TGATCCCAAT TTTGTGTTTT
 5 TCTTTCTATA TATG JATTAA AACAAAAATC CTAAAGGGAA ATACGCCAAA ATGTGACAA TGACTGTCTC
 CAGGTCAAAG GAG AGAGGTG GGATTGTGGG TGA CTTTTAA TGTGTATGAT TGTCTGTATT TTACAGAATT
 TCTGCCATGA CTGTGTATTT TGCATGACAC ATTTTAAAAA TAATAAACAC TATTTT TAGA ATAACAGAAT
 ATCAGCCTCC TCCTCTCAA AAATAAGCCC TCAGGAGGGG ACAAAGTTGA CCGCTGATTG AGCCTGTCAG
 GGCTGTGCAC-3' (FRAG. NO:) (SEQ. ID NO:2523)
 10 5'-GCTCAGGGCA CA TCCCTCCC CTCCCAGGC CGCGGCCAG CTGACCCTCG GGGCTCCCC GGCAGCGGAC
 AGGGAAGGGT TAAAGGCCCC CGGCTCCCTG CCCCCTGCC TGGGGAACCC CTGGCCCTGT GGGGACATGA
 ACTGTGTTTG CCGCTGGTCT CTGGTCTGTC TGAGCCTGTG GCCAGATACA GCTGTGCCCC CTGGGCCACC
 ACCTGGCCCC CTCTGAGTTT CCCCAGACCC TCGGGCCGAG CTGGACAGCA CCGTGTCTCT GACCCGCTCT
 CTCCTGGCGG ACAC GCGGCA GCTGGCTGCA CAGCTGAGGG ACAAAATCCC AGCTGACGGG GACCACAACC
 15 TGGATTCCCT GCCCACCCTG GCCATGAGTG CGGGGCACT GGGAGCTCTA CAGTCCCAG GTGTCTGAC
 AAGGTGCGA GCGGACCTAC TGTCTACCT CGGCGACGTG CAGTGGCTGC GCCGGGACAG TGGCTCTTCC
 CTGAAGACCC TGGAGCCCGA GCTGGGCACC CTGCAGGCC GACTGGACCG GCTGCTGCGC CGGCTGCAGC
 TCCTGATGTC CCGCTGGCC CTGCCCCAGC CACCCCGGA CCGCGCGCG CCCCCGCTGG CGCCCCCTC
 CTCAGCCTGG GGGGCGCATCA GGGCCGCCCA CGCCATCCTG GGGGGGCTGC ACCTGACACT TGACTGGGCC
 20 GTGAGGGGAC TGTCTGCTGT GAAGACTCGG CTGTGACCG GGGCCCAAAG CCACCACCGT CCTTCCAAAG
 CCAGATCTTA TTTATTTATT TATTTAGTA CTGGGGGCGA AACAGCCAGG TGATCCCCC GCCATTATCT
 CCCCTAGTT AGAGACAGTC CTTCCTGAG GCCTGGGGGA CATCTGTGCC TTATTTATAC TTATTTATT
 CAGGAGCAGG GGTGGGAGG AGGTGGACT CTGGTCCCC GAGGAGGAGG GGACTGGGGT CCCGATTCT
 TGGGTCTCA AGAAGTCTGT CCACAGACTT CTGCCCTGGC TCTTCCCAT CTAGGCTGG GCAGGAACAT
 25 ATATTATTTA TTAAAGCAAT TACTTTTCAT GTTGGGTGG GGACGGAGGG GAAAGGGAAG CCTGGGTTTT
 TGTACAAAAA TGTGAGAAAC CTTTGTGAGA CAGAGAACAG GGAATTAAAT GTGTCATACA TATCC-3' (FRAG.
 NO:) (SEQ. ID NO:2521)
 5'-CAGCTGCGGC A TCTCTGTC TCAGAGTCTT GGTGTCTCTG TTCCTTCCC CTCGGGGTCT CCCTGGGTCT
 CCCCAGTCC CTCTGTGCTT CTCTCTCCCG CTCTCTGATC TCTGACTCCC AGAACCTCTC CCTCTGTCTC
 30 CAGGGCTGCC CTCTGTATCC TCTTTGCTTC TCTGGTGTGT CTCTCTGGCT GCCTCCATCT CTGTGGATCT
 CCGTCTCCCT GTCTCTGTCT CAGTCTGTCC TTCACTCTGT GTGTGTGTGT GTCTCTCTCT CTCTCTCTCC
 TTCCCTTCCA CTCTCTCTC CTCTGCTCC CACCTCTCCA GGCCCTGTCT TTGTCCCTCC GTCCGGCCTT
 TCTCTGCCCT TCCGTCTCTC TGCCTCCCA TCTCTCTCTG CTAGTCTGT CCAGCCGAC CCCCACCCAC
 AGTCGGGCCC CAGCTCTTGA GCCTGAGTGT CTGCTCCGGC CCGTGGAGGT GGAGGGAGGG GACGCCAATG
 35 ACCTACCCAG CCCCCTCTCC ACCACCCCCC CTTTCCCTT TTCAACTTTT CCAACTTTTC CTTCCGTGCC
 CTCTCCGAG CGCCGCGGCG TGAGCCCTGC AAGGCAGCCG CTCCGTCTGA ATGGAAGAGG CAGGCAGGGA
 GGGTGAGTCA GGA TGTGTC GGC CGGCCCT CCCCTGCCCG CTGCCCCCG CCGCGCCGCC CCAGGCCCCC
 TATATAACCC CCAAGGCGTC CACACTCCCT CACTGCCGCG GGCCCTGCTG CTCAGGGCAC ATGCCTCCCC
 TCCCAGCCG CGGCCCCAGC TGACCCTCGG GGCTCCCCG GCAGCGGACA GGGAAGGGTT AAAGGCCCCC
 40 GGCTCCCTGC CCCC TGCCCT GGGGAACCCC TGGCCCTGTG GGGACATGAA CTGTAAGTTG GTTCTGGGG
 AGGTGGAGG GGAAGGGAG GCAGGGAGGA GAGGAGCCCA CGGCGGGGGT GGGAGCAGAC CCCGTGAGT
 CGCACAGAGA GGGACCCGGA GACAGGCAGC CGGGGAGGAG AGCAGCTTCG GAGACAGGAG GCGGCGGAGG
 AGATGGGAG AGAGAGACAC AGACAGGAGC GGATGGAGGC AGCCAATCAG AGGCGCCGCA GGAGGGACGG
 GCCAGACAGG GCGGAGAGG AGCAGAGAGC GAGACCGAGC AGGGGACAGG ACAGGAGGAC TGGTCCGGGG
 45 AGGGAGGTGA CCCCATCGA CCCAGGCCCC AGGGAGCCCG CGGGGACCG GAGACTCCCT GGGATTCCGG
 CAGAGAGGCT CCGGAGGGAA ACTGAGGCAG GGTCCGCGGA GAGCGGAGCA AGCCAGGGAG TAGCGACCCC
 AGCCGGGGGG AGGAGAGAGA CTGGGCGCCG GGGGAAAGCG GGGAGAGCCG GGCAGATGCG GCCGACGGAG
 GCGCGGACAG ACCGACGGCT GGCGGGCCCG GGGGGCGGGG TGGGGGTGTG CGAGGCGCGG CGGCGCGGGG
 AGCGCTGATT GGC TGGCGGG TGGCCGGGGT GGC GGGGGCGG CCGGGGTGGG CTGCGGGGAG CGAGCTCCGG
 50 ACCCCGCGC CCCC GCGGCC CCCC GCGCCC CCGCGGCCA GCTCTCCCG TCCCGGCGCC CGGCGGGGCC
 ATGGCTCTGC CCCC TCCCGC CCAGGTGCGC TGCGGCCCG GCTTCTGCG CCCACCCGGC GGGCTCCTGG
 GAGGGCGTCT AAGGGGTCTC CCGTGGGAGA GGTCCGTGTC TCCCGGACTC CGTCTGGGC TTTTGGCTCC
 TTCCCTGCT CCCAGCCAGC TCGGGCTCCC GCGGCCCGGG GAGGGGGCAG GTTCTGGCCT GTGCCTCCCC
 CACCATCCGC GCGCGGGG CCAGATTCCG GCGTCCGGGG GCGGACGGGA GACGCCCGGG CCGCGTCTGC
 55 TCCGACGGG GGGGACAGCA GAGCCAGGGA GGGAGAGGGA AGCCCGCCTG GCCCTGCGAG CTGCCCCGGG
 GCGATTCCACC CTGCGACTTA AGACCTCCAG CTCATCTCT CTAAGGCCG GGAGTCCAG CCCCAGACCC
 TCCTCCCCGA GACCCAGGAG TCCAGACCCC AGGCCTTCT CCCTCAGACC TAGGAGTCCA GGCCCCCAGC
 CTCTCTCCC TCAGACCCAG GAGGAGTCCA GACCCAGTT CCTCCTCCCT CAGACCCGGG AGTCCAGCCC
 AGGCCCTCCT CTC TACAGACC CGGAGTCCAG CTTGAGCTCT CTGCCTTATC CTGCCCCAG GTGTTTGCCG
 60 CCTGGTCCCT GTCTGTCTGA GCCTGTGGCC AGATACAGCT GTCGCCCTG GGCCACCACC TGGCCCCCT

004040 " 040560

CGAGTTTCCC CAGACCTCG GGCCGAGCTG GACAGCACCG TGCTCCTGAC CCGCTCTCTC CTGGCGGACA
CGCGGCAGCT GGCTGCACAG CTGGTAGGAG AGACTGGGCT GGGGCCAGCA CAGGAGTGAG AGGCAGAGAG
GAACGGAGAG GAGCTGCGG GCAGCCACTT GGAGGGGTTT TGGGCTCTCA GGTGGCAGAG TGAGGGAGGG
5 GAAGAGTTGG GGGCTGGCG TGGGGGATGG AGGGAGCCCC GAGGCTGGGC AGGGGCCACC TCACAGCTTT
TTTCCCTGCC AGAGGGACAA ATTCCAGCT GACGGGGACC ACAACCTGGA TTCCCTGCCC ACCCTGGCCA
TGAGTGCAGG GGCCTGGGA GCTCTACAGG TAAGGGCAAG GGAGTGGGCT GGGGACAAGG TGGGAGGCAG
GCAGTGAAGG GGGGGGGGAG GATGAGGGGC ACTGGTCGGG TGTTCTCTGA TGTCCCGGCT CTATCCCCAG
CTCCCAGGTG TGCTGACAAG GCTGCGAGCG GACCTACTGT CCTACCTGCG GCACGTGCAG TGGCTGCGCC
GGGCAGGTGG CTCCTCCCTG AAGACCCTGG AGCCCGAGCT GGGCACCTG CAGGCCCGAC TGGACC GGCT
10 GCTGCGCCGG CTGAGCTCC TGGTATGTCC TGGCCCCAAG ACCTGACACC CCAGACCCCC ACCCTGGGCC
CCAAAATCCT GTGCCTGAG TCCTTGAAGC CTGAGACCCC AGACCCGAGT GCAACAGCCC CGCTGTGAGA
CCCTGACACG ACTACAGCCC GCTCTGAGAC CTGACACCG TAACAGCCCC GCTCTGAGAC CTTGACCTTA
ACAGTCTGCT TCTGAGACCC TGACCCTGCA GTCCCAAGAT CCTGTGGCCC TGAGACCCTG AGGCCCTAGA
CCCCAAAATC CTGCCAGAA ACTTCAAATT CTCACCCAAG ACCCTGAGAC TCCATCATCC ATGACCTCAA
15 AGTCCCCAGA TCCCAGCCCC TAAGACCCAA GACCCCATCC TGAAGCCCAA AGCCTTGAGA ATTCAAATCC
TCACCTCAAG ACTTGGAGAC CCTGGCCCCA TGACATTGAA AACCATTGAC CTGGCCAGGC GTGGTGGCTC
ACGCTGTAA TCCCAGCACT TTGGGAGGCC GAGGCAAGTG GATCACCTGA GGTGCGGAGT TCAAGACCAG
CCAGACCAAC ATGCTGAAAAC CCTGTCTCTA CTAAAAATAC AAAATTAGCC AGGCGTGGTG GTGCATGCCT
GTAATCCGAG CTACTTGGGA GGCTGAGGCA GGAGAATCGG TTGAACCTGG GAGGCGGAGG TTGCAGTGAG
20 CCGAGATCGC ACCATTACAC TCCAGCCTGG GCAACAAGAG CAAAACTCCC TCTCTCTCAA AAAAAAATAA
AAAAAATAA AAGAAGGAAA AGAAAAACAT GGACCTCCAG ACCCTGAGAC CCCAGGCCCC AGCCCTGAGA
TCCTGACATC TTAAAGATCC CAGGCCCTAA GATACAAGAC CTTGACCCAA AGCCAGCCTT GGGACCCTGG
CTGTACAAAC CCAAGACCTC CAGGACCTAG ACCCCGAGCC CTGAGGCCCT ATGTCTCACT CCCAACATCG
AAAACCCTGA CACTTCAGAT CCTGAGCCTG CGCCTGTACG ACTCCAAGAC CCTCACTTCC AAAGCCAGGC
25 CCAAAGCCCT GAGACCAAG GACTTCAAAC CCTGGTTCTT GGGCCTAACT CCAAAGACCC TGGATCTCAA
ATTCCAATT CTAGCTCTGA GACTCCAGCC CTCACCCATG AGTTCCTGAA CTTGAACCCA GAGACCCCAT
CTCTAAGACT TCAGCCTTGA GATCCAGGGC CTGACCTCTG ACTCGAGCCC ACAGACCTCA GATACTGTCT
GTAAAACCCC AGCTCTGGTG GGGAGCAGTG GCTCACTCT GTAAATCCAA GGCAGGGGAG GCCAAGGCAG
AAGGACCTCT TGACGCCATG AGTTTGAGAC AGCCTGGGCA GCATAGCAAG ACTCTGTTTC TTAATTATTA
30 TTATTATTAT TATTTTTGG AGACAGAGTC TCGCGCTCTG TTGCCCAGGC TAGAGTGCAA TGGTGCCATT
TCGGCTTGCT GGAACCTCCG CCTCTGGGC TCAAGCGATT CTCCTGCCTC AGCCTCTGA GTAGCTGGGA
CTTCAGGTGC ACACCTGCCAC ACCCGGATAA TTTTTTGTA TTTTAGTAGA CACAGGGTTT CACCGTGTG
CCCAGGCTGG TCACAAACTC CTGAGCTCAG GCCATCCGCC CGCCTCGGCC TCCCAAAGCG CTGGGATAAC
AGGCGTGACG CCGCGCCTGG CTTCTTAATT GTTCTAACAG CAGCGACAAC AACAAAAACC CAGCTCTGAG
35 ATTCCAGACT CGGCAGCTCT AACAGTCCCA GGCCCGATCC CTCACCTAGA ACCGAGATGC ACCGAGTGAC
TCCACAGACT TCACCCCAA CCCCCACACT CAGCTCTGGA AGCCCGTCTT GACTCCAGCC TCCATTTTCG
GAACCCACA GCCTGAAGAG CTCCCGGCTT AAACACTTCA CCCCACGCGC CACAGTCCCC CTGTGAATAT
GCAGCCCCGA TTCACTGCA GCTCCACAGC ACCCTGCCC TGCAACCCCG CTGCACCCCC TACCTGTGAC
TCACCTCTCT CCTCICCCA CAGATGTCCC GCCTGGCCCT GCCCAGCCA CCCCAGGACC CGCCGCGGCC
40 CCCGCTGGCG CCCCCTCCT CAGCCTGGGG GGGCATCAGG GCCGCCACG CCATCCTGGG GGGGCTGCAC
CTGACACTTG ACTGGGCCGT GAGGGGACTG CTGCTGCTGA AGACTCGGCT GTGACCCGGG GCCCAAAGCC
ACCACCGTCC TTCCAAGCC AGATCTTATT TATTTATTTA TTTTCACTACT GGGGGCGAAA CAGCCAGGTG
ATCCCCCGC CATIATCTCC CCCTAGTTAG AGACAGTCTT TCCGTGAGGC CTGGGGGGCA TCTGTGCCCT
ATTTATACTT ATTTATTTCA GGAGCAGGGG TGGGAGGCAG GTGGACTCCT GGGTCCCCGA GGAGGAGGGG
45 ACTGGGGTCC CGGAATTCTTG GGTCTCCAAG AAGTCTGTCC ACAGACTTCT GCCCTGGCTC TTCCCCATCT
AGGCCTGGGC AGGAACATAT ATTATTTATT TAAGCAATTA CTTTTCATGT TGGGGTGGGG ACGGAGGGGA
AAGGGAAGCC TGGGTTTTTG TACAAAAATG TGAGAAACCT TTGTGAGACA GAGAACAGGG AATTAATGT
GTCATACATA TCCACTTGAG GGCAGTTTGT CTGAGAGCTG GGGCTGGATG CTTGGGTAACT TGGGGCAGGG
CAGGTGGAGG GGAAGCTTCC ATTCAGGTGG AGGTCCCAG TGGGCGGGGC AGCGACTGGG AGATGGGTG
50 GTCACCCAGA CAGCTCTGTG GAGGCAGGGT CTGAGCCTTG CTGGGGCCC CGCACTGCAT AGGGCCGTTT
GTTTGTTTTT TGAGATGGAG TCTCGCTCTG TTGCCTAGG TGGAGTGCAG TGAGGCAATC TAAGGTCACT
GCAACCTCCA CCTCCGGGT TCAAGCAATT CTCCTGCCTC AGCCTCCCGA TTAGCTGGGA TCACAGGTGT
GCACCACCAT GCCAGCTAA TTATTTATTT CTTTTGTATT TTTAGTAGAG ACAGGGTTTC ACCATGTTGG
CCAGGCTGGT TTCCAACTCC TGACCTCAGG TGATCCTCCT GCCTCGGCCT CCCAAAGTGC TGGGATTACA
55 GGTGTGAGCC ACCACACCTG ACCCATAGGT CTTCAATAAA TATTTAATGG AAGGTCCAC AAGTCACCT
GTGATCAACA GTACCCGTAT GGGACAAAGC TGCAAGGTCA AGATGGTTCA TTATGGCTGT GTTCACCATA
GCAAACCTGA AACATCTAG ATATCCAACA GTGAGGGTTA AGCAACATGG TGCACTGTG GATAGAACGC
CACCAGCCG CCCCAGCAG CGACTGTCAT TCAGGAGGC TAAGGAGAGA GGCTTGCTTG GGATATAGAA
AGATATCCTG ACATGGCCA GGCATGGTGG CTCACGCTG TAATCCTGCG ACTTTGGGAG GACGAAGCGA
60 GTGGATCACT GAACCTCAAG AGTTTGAGAC CGGCCTGCGA GACATGGCAA AACCCTGTCT CAAAAAGAA
AGAATGATGT CCTACATGA AACAGCAGGC TACAAAACCA CTGCATGCTG TGATCCCAAT TTTGTGTTTT
TCTTCTATA TATGATTAA AACAAAAATC CTAAAGGGAA ATACGCCAAA ATGTTGACAA TGACTGTCTC

004040 " 6294560

CAGGTCAAAG GAGAGAGGTG GGATTGTGGG TGACTTTTAA TGTGTATGAT TGTCTGTATT TTACAGAATT
TCTGCCATGA CTGTGTATTT TGCATGACAC ATTTTAAAAA TAATAAACAC TATTTTTAGA ATAACAGAAT
ATCAGCCTCC TCCTCTCCAA AAATAAGCCC TCAGGAGGGG ACAAAGTTGA CCGTGATTG AGCCTGTACG
GGCTGTGCAC-3' (FRAG. NO:_) (SEQ. ID NO:2522)

5 Human GM-CSF Nucleic Acid and Antisense Oligonucleotide Fragments

5'-CTTGBGCBGG BBGCTCTGGG GCBGGGBGCT GGCBGGGCCC BGGGGGGTGG CTTCCTGCBC TGTCCBGBGT
GCBCTGTGCC BCBGCBGCBG CTGCBGGGCC BTCBGCTTCB TGGGGCTCTG GGTGGCBGGT CCBGCCBTGG
GTCTGGGTGG GGCIGGGCTG CBGGCTCCGG GCGGTCCBGGCBTGGGTCTG GGGGCTGGG CTGCBGGCTC
CGGGCGGGCG GGTGCGGGCT GCGTGTGGG GGCTGCCCCG CAGGCCCTGC GGTCCBGGCB TGGGTCTGGG
10 GGCTGGGCTG CBGGCTCCGG GCGGGCGGGT GCGGGCTGCG TGCTGGGGGC TGCCCCGAG GCCCTGC-3' (FRAG.
NO:1847) (SEQ. ID NO: 1860)

5'-GBGCBGG BBG-3' (FRAG. NO:1848) (SEQ. ID NO: 1861)

5'-GCCBGBGCBGCBG-3' (FRAG. NO:1849) (SEQ. ID NO: 1862)

5'-GGG TGC GGG C-3' (FRAG. NO:1850) (SEQ. ID NO: 1863)

15 5'-GGT CCB GCC BTG 3GT CTG GG-3' (FRAG. NO:1300)(SEQ. ID NO:1309)

5'-GGC TGG GCT GCB GGC TCC GG-3' (FRAG. NO:1301)(SEQ. ID NO:1310)

5'-GCG GGC GGG TGC GGG CTG CGT GCT GGG-3' (FRAG. NO:1302)(SEQ. ID NO:1311)

5'-GGC TGC CCC GCA GGC CCT GC-3' (FRAG. NO:1303)(SEQ. ID NO:1312)

20 5'-CTTGBGCBGG BBGCTCTGGG GCBGGGBGCT GGCBGGGCCC BGGGGGGTGG CTTCCTGCBC TGTCCBGBGT
GCBCTGTGCC BCBGCBGCBG CTGCBGGGCC BTCBGCTTCB TGGGGCTCTG GGTGGCBGGT CCBGCCBTGG
GTCTGGGTGG GGCTCGGCTG CBGGCTCCGG GC-3' (FRAG. NO:1851) (SEQ. ID NO: 1864)

Human Tumor Necrosis Factor α Antisense Oligonucleotide Fragments

5'-GCBCCGCTG GBGCTCTGGG GCCCCCTGT CTCTTGGGG BCGCCTCCT CGGCCBGCTC CBCGTCCCGG
BTCBTGCTTT CBGTGCTCBT GGTGTCTTT CCBGGGGBGB GBGGGGCTGG TCCTTGCTG TCCTTGCTGG
25 TGCTCBTGGT GTCTTTCCG CCCTGGGGCC CCCGTGCTT CTTGGGGCCT CTTCCTCTG GGGGCCGTCT
CTCTCCCTCT CTGCGTCTC TCTCTTCTC TCTCTCTCT CCCCTTCCC GCTCTTCTG TCTCGGTGTC
TGGTTTCTC TCTCGCTGG CTGCTGTCT GGCCTGCGCT CTGGCCCTGT GCTGTCTCTC CTCCGGTTCC
TGCTCTCTCT GTCTCTCGCC CCTCTGGGG TCTCCTCTG GGTGGTGGTC TTGTGCTTG GGCTGGGCTC
CGTGTCTCCB GTGCTCBTGG TGCCGCTGB GGBGCGTCT GCTGGCGCTG GTCTCTGCTGTC CTTGCTGGTG
30 CTCBTGGTGT CTTTCCGCC CTGGGGCCCC CTTGTCTTCT TGGGGCCTCT TCCCTCTGGG GGCCGTCTC
TCTCCCTCTC TTGCGTCTCT CTCTTCTCT CTCTCTCTC CCCTTCCCG CTCTTCTGT CTCGGTGTCT
GGTTTCTCT CTCCGCTGGC TGCTGTCTG GCCTGCGCTC TTGGCCTGTG CTGTCTCTCC TCCGGTCTCT
GTCCTCTCTG TGTGCGCCC CCTCTGGGGT CTCCCTCTGG CGTGGTGGTC TTGTGCTTG GGCTGGGCTC
CGTGTCTCCB GTGCTCBTGG TGCCGCTGB GGBGCGTCT GCTGGC-3' (FRAG.NO:1852)(SEQ.ID NO:1865)

35 5'-GGGGCCCCC-3' (FRAG. NO:1853) (SEQ. ID NO:1866)

5'- GGG GGC CG TCT-3' (FRAG. NO:1854) (SEQ. ID NO:1867)

5'-CCBGGGGBGB GBG 3GGCTGG-3' (FRAG. NO:1855) (SEQ. ID NO:1868)

5'-GCBCCGCTG GBGCTCTGGG GCCCCCTGT CTCTTGGGG BCGCCTCCT CGGCCBGCTC CBCGTCCCGG
BTCBTGCTTT CBGTGCTCBT GGTGTCTTT CCBGGGGBGB GBGGG-3' (FRAG. NO:1304) (SEQ. ID NO:1313)

40 5'-GCT GGT CCT CTG CTG TCC TTG CTG GTG CTC BTG GTG TCC TTT CC GCC CTG GGG CCC CCC TGT CTT CTT
GGG G CCT CTT CCC TCT GGG GGC CG TCT CTC TCC CTC TCT TGC GTC TCT C TCT TTC TCT CTC TCT CTT CCC
C TTT CCC GCT CTT TCT GTC TC GGT GTC TGG TTT TCT CTC TCC GCT GGC TGC CTG TCT GGC CTG CGC TCT T
GGC CTG TGC TGT TCC TCC GGT TCC TGT CCT CTC TGT CTG TC GCC CCC TCT GGG GTC TCC CTC TGG C
GTG GTG GTC TTG TTT CTT GGG CTG GGC TCC GTG TCT C CBG TGC TCB TGG TGT CC-3' (FRAG. NO:1305)
45 (SEQ. ID NO:1314)

5'-GCT GBG GGB GCG TCT GCT GGC GCT GGT CCT CTG CTG TCC TTG CTG GTG CTC BTG GTG TCC TTT CC GCC
CTG GGG CCC CCC TGT CTT CTT GGG G CCT CTT CCC TCT GGG GGC CG TCT CTC TCC CTC TCT TGC GTC TCT
C TCT TTC TCT CTC TCT CTT CCC C TTT CCC GCT CTT TCT GTC TC GGT GTC TGG TTT TCT CTC TCC GCT GGC
TGC CTG TCT GGC CTG CGC TCT T GGC CTG TGC TGT TCC TCC TCC GGT TCC TGT CCT CTC TGT CTG TC GCC
50 CCC TCT GGG GTC TCC CTC TGG C GTG GTG GTC TTG TTG CTT GGG CTG GGC TCC GTG TCT C CBG TGC TCB
TGG TGT CC GCT GBC GGB GCG TCT GCT GGC-3' (FRAG.NO:1306)(SEQ.ID NO:1315)

5'-GCT GGT CCT CTG CTG TCC TTG CTG-3' (FRAG. NO:1655) (SEQ. ID NO:1664)

5'-GTG CTC BTG GTG TCC TTT CC-3' (FRAG. NO:1656)(SEQ. ID NO:1665)

5'-GCC CTG GGG CCC CCC TGT CTT CTT GGG G-3' (FRAG. NO:1657)(SEQ. ID NO:1666)

55 5'-CCT CTT CCC TCT GGG GGC CG-3' (FRAG. NO:1658)(SEQ. ID NO:1667)

5'-TCT CTC TCC CTC TCT GTC GTC TCT C-3' (FRAG. NO:1659)(SEQ. ID NO:1668)

5'-TCT TTC TCT CTC TCT CTT CCC C-3' (FRAG. NO:1660)(SEQ. ID NO:1669)

5'-TTT CCC GCT CTT TCT GTC TC-3' (FRAG. NO:1661)(SEQ. ID NO:1670)

5'-GGT GTC TGG TTT TCT CTC TCC-3' (FRAG. NO:1662)(SEQ. ID NO:1671)

00439" 6294350

5'-GCT GGC TGC CTG TCT GGC CTG CGC TCT T-3' (FRAG. NO:1663)(SEQ. ID NO:1672)
 5'-GGC CTG TGC TGT ICC TCC-3' (FRAG. NO:1664)(SEQ. ID NO:1673)
 5'-TCC GGT TCC TGT TCT CTC TGT CTG TC-3' (FRAG. NO:1665)(SEQ. ID NO:1674)
 5'-GCC CCC TCT GGG GTC TCC CTC TGG C-3' (FRAG. NO:1666)(SEQ. ID NO:1675)
 5'-GTG GTG GTC TTG TTG CTT-3' (FRAG. NO:1667)(SEQ. ID NO:1676)
 5'-GGG CTG GGC TCC GTG TCT C-3' (FRAG. NO:1668)(SEQ. ID NO:1677)
 5'-CBG TGC TCB TGG TGT CC-3' (FRAG. NO:1669)(SEQ. ID NO:1678)
 5'-GCT GBG GGB GCG TCT GCT GGC-3' (FRAG. NO:1670)(SEQ. ID NO:1679)

Human Leukotriene C4 Synthase Nucleic Acids and Antisense Oligonucleotide Fragments

10 5'-CTCGGTBGB C GCGCTCGBBC TCGGGTGGGC CGGTGGTGBG CGGCGGCGBCB CGCGGBBGGC CCTGCGCGCC
 GBGBTCBCCTG CBGGGBBGG TBGGCTTGC BCBGGBCTCC CBGGBGGGTG BCBGCBGCCB GTBGBGCTBC
 CTCGTCCTTC BTGGTBCCGT CGGTGTGGTG GCBGCGGCTG TGTGTBBGG CGBGCTGGG CCCGTCTGCT
 GCTCCTCGTG CCGCTCGTC CTCA TGG TA CCGTCGGTGT GGTGGCCTCG GGTGGGCCG TGGTGGGCG
 CGCGCGCTG CCGCTCGTC GCTCTCTT CCCGCTCCGT CGGCCCGGG GCCTTGGTCT CCCTCGTCT
 15 TCBTGGTBCC G-3' (FRAG. NO:1856) (SEQ ID NO: 1869)
 5'-GCB GCBGGBC-3' (FRAG. NO:1857) (SEQ ID NO: 1870)
 5'-CCCGGCTCCG-3' (FRAG. NO:1858) (SEQ ID NO: 1871)
 5'-CGGCCCGGG GCC-3' (FRAG. NO:1859) (SEQ ID NO:1872)
 5'-CB CGCGG-3' (FRAG. NO:1860) (SEQ ID NO: 1873)
 20 5'-GCC CCG TCT GCT GCT CCT CGT GCC G-3' (FRAG. NO:1307)(SEQ. ID NO:1316)
 5'-CCT CGT CCT TCA TGG TAC CGT CGG TGT GGT GGC-3' (FRAG. NO:1308)(SEQ. ID NO:1317)
 5'-CTC GGG TGG GCC GGT GGT G-3' (FRAG. NO:1309)(SEQ. ID NO:1318)
 5'-GGG CGC GCG CGC TCG CGT-3' (FRAG. NO:1310)(SEQ. ID NO:1319)
 5'-GGC TCC GGC TCT TCT TTC CCG GCT CCG TCG GCC CGG GGG CCT TGG TCT C-3' (FRAG. NO:1311)(SEQ. ID NO:1320)
 25 5'-CCT CGT CCT TCB TGG TBC CG-3' (FRAG. NO:1312)(SEQ. ID NO:1321)
 5'-CTCGGTBGB C GCGCTCGBBC TCGGGTGGGC CGGTGGTGBG CGGCGGCGBCB CGCGGBBGGC CCTGCGCGCC
 GBGBTCBCCTG CBGGGBBGG TBGGCTTGC BCBGGBCTCC CBGGBGGGTG BCBGCBGCCB GTBGBGCTBC
 CTCGTCCTTC BTGGTBCCGT CGGTGTGGTG GCBGCGGCTG TGTGTBBGG CGBGCTGG-3' (FRAG. NO:1861)
 (SEQ ID NO:1874)

Human Endothelin-1 Nucleic Acids and Antisense Oligonucleotide Fragments

30 5'-BCCGCGGBG CC3CCBGGT GGBCTGGGBG TGGGTTTCTC CCCGCCGTC TCBCCCBCCG CGCTGBGCTC
 BGCGCCTBBG BCTGCTGTT CTGGBGCTCC TTGGCBGGC BCBBCBGC BCBGBBBBT CBTGBGCBBB
 TBBTCCBTTC TGBB8BBBGG GGBTCBBB8B CCTCCCGTTC CCCGTCGCC TGGCGCGCG TGCGGGTTC
 TCGTGGGTTT CTCGCGCGG TTCTCCGTC TGTGCTTT GTGGGCTTCT TGTCTTTTG GCTGTTCTT
 35 TCCTGCTTGG CGTCTTTTCC TTCTTTGTG CTCGGTTGTG GGTCCGCTGG TCCTTTGCC TGTGTGTTT
 TGCTGCCCGT TCGCTGGCG CGCGCTGCG GTTCTCTCGT GGTCTCTCC CGCGTCTCT CGGTCTGTTG
 CCTTTGTTGG CTCTTTGCT TTTTGGCTGT TCTTTCTCT CTGGGCTCT TTTCTTTCT TTGTGCTCGG
 TTGTGGGTCC GTGC TCCT TGCCCTGTGT GTTCTGCTG-3' (FRAG. NO:1862) (SEQ. ID NO:1875)
 5'-CCGCGGBG CCGCBGGT GGB-3' (FRAG. NO:1863) (SEQ. ID NO:1876)
 40 5'-CCGCCBGG-3' (FRAG. NO:1864) (SEQ. ID NO:1877)
 5'-GGCGCGCGC-3' (FRAG. NO:1865) (SEQ. ID NO:1878)
 5'-GTGGGTCCG-3' (FRAG. NO:1866) (SEQ. ID NO:1879)
 5'-CCCGTTCGCTGGCG-3' (FRAG. NO:1313)(SEQ. ID NO:1322)
 5'-GCGCTGCGGGTCTC-3' (FRAG. NO:1314)(SEQ. ID NO:1323)
 45 5'-GTGGGTTCTCCCGCGTCTC-3' (FRAG. NO:1315)(SEQ. ID NO:1324)
 5'-CGGTCTGTGCTTGTGGG-3' (FRAG. NO:1316)(SEQ. ID NO:1325)
 5'-CTTCTGTCTTTT3GCT-3' (FRAG. NO:1317)(SEQ. ID NO:1326)
 5'-GTTCTTTCTGCTTGGC-3' (FRAG. NO:1318)(SEQ. ID NO:1327)
 5'-GTCTTTCTTCTT-3' (FRAG. NO:1319)(SEQ. ID NO:1328)
 50 5'-TGTGCTCGGTTGTGGTC-3' (FRAG. NO:1320)(SEQ. ID NO:1329)
 5'-CGCTGGTCTTTGCC-3' (FRAG. NO:1321)(SEQ. ID NO:1330)
 5'-CTGTGTGTTTCTGTG-3' (FRAG. NO:1322)(SEQ. ID NO:1331)
 5'-CCCGTTCGCTGGCG-3' (FRAG. NO:1323)(SEQ. ID NO:1332)
 5'-GCGCTGCGGGTCTC-3' (FRAG. NO:1324)(SEQ. ID NO:1333)
 55 5'-GTGGGTTTCTCCCGCGTCTC-3' (FRAG. NO:1325)(SEQ. ID NO:1334)
 5'-CGGTCTGCTTGTGGG-3' (FRAG. NO:1326)(SEQ. ID NO:1335)
 5'-CTTCTGTCTTTT3GCT-3' (FRAG. NO:1327)(SEQ. ID NO:1336)
 5'-GTTCTTTCTGCTTGGC-3' (FRAG. NO:1328)(SEQ. ID NO:1337)
 5'-GTCTTTCTTCTT-3' (FRAG. NO:1329)(SEQ. ID NO:1338)
 60 5'-TGTGCTCGGTTGTGGTC-3' (FRAG. NO:1330)(SEQ. ID NO:1339)

5'-CGCTGGTCCTTTGCC-3' (FRAG. NO:1331)(SEQ. ID NO:1340)

5'-CTGTGTGTTTCTGCTG-3' (FRAG. NO:1332)(SEQ. ID NO:1341)

Endothelin Receptor ET-B Nucleic Acids and Antisense Oligonucleotide Fragments

- 5'-GCCCTGTCCG GCGGGAAGCC TCTCTCCTCT CCCCAGATC CGCGACAGGC CGCAGGCAAG AACCAGCGCA
5 ACCAGGGCGC GTCCGCACAG ACTTGGAGGC GGCTGCATGC TGCTACCTGC TCCAGAAGCG TCCGGTGGCC
GCCGCGCC CTGTCGGGCG GBBGCTCT CTCCTCTCC CBGBTCCGCG BCBGGCCGCB GGCBBGBBCC
BGCGCBCCB GGGCGCGTCC GCBGBBCTT GBBGGCGGCT GCBTGTCTGCT BCCTGCTCGGGCG GBBGCTCCG
GTGGCCGCG CGCGTCCGGT GGCCGCCGCG CCTCTCTCT CTCCCGTGG CCTGTGCGG CGGGTCTGCTG
CGTCTGTCT CTTTTCTTT TGCTGTCTTG TCTCCCGTC TGTGCTT-3' (FRAG. NO: 1867) (SEQ. ID NO: 1880)
- 10 5'-CGGGCG GBBGCC-3' (FRAG. NO: 1868) (SEQ. ID NO: 1881)
5'-CGGGCGG-3' (FRAG. NO: 1869) (SEQ. ID NO: 1882)
5'-CCGCBGBBC-3' (FRAG. NO: 1870) (SEQ. ID NO: 1883)
5'-GCGTCCGGTGGCCGCCG-3' (FRAG. NO:1333)(SEQ. ID NO:1342)
5'-GCCTCTCTCTCTCCCC-3' (FRAG. NO:1334)(SEQ. ID NO:1343)
- 15 5'-GTGGCCCTGTCCGGCGGG-3' (FRAG. NO:1335)(SEQ. ID NO:1344)
5'-TCCTGCCGTCTGTCTCCTT-3' (FRAG. NO:1336)(SEQ. ID NO:1345)
5'-TCTTTTGTCTGTCTT-3' (FRAG. NO:1337)(SEQ. ID NO:1346)
5'-CTTCCCGTCTGTCTT-3' (FRAG. NO:1338)(SEQ. ID NO:1347)
5'-GCCCTGTCCG GCGGGAAGCC TCTCTCCTCT CCCCAGATC CGCGACAGGC CGCAGGCAAG AACCAGCGCA
20 ACCAGGGCGC GTCCGCACAG ACTTGGAGGC GGCTGCATGC TGCTACCTGC TCCAGAAGCG TCCGGTGGCC
GCCG-3' (FRAG. NO: 1871) (SEQ. ID NO: 1884)
5'-GCCCTGTCCG GCGGGBBGCC TCTCTCCTCT CCCCGBGTCC GCGBCBGGCC GCBGGCBGB BCCBGCGB
BCCBGGGCG GTCCCBGB BCTTGBGGC GGCTGCTGCTGCTBCCTGC TCCBGBBGGC TCCGGTGGCC GCCG-
3' (FRAG. NO: 1872) (SEQ. ID NO: 1885)

Endothelin ETA Receptor Nucleic Acids and Antisense Oligonucleotide Fragments

- 5'-GTCTGTCTC CCCTCTCCT CCACTGCTT CTCCGGGGG CTCCCGGC TCCGGGTGGC CGGTGTCCCG
GGCTCCGGCG CGCGGGCGG TCCGGTGGC GGTGGGTGGC GCGGGCTGCC GGGTCCGCG GCGCCTGGG
CCCTGTGCT GCTTTTGTCT TGTCCGTT TGGTGTCTC GGCTGTGTT GTGGTTGTT TGTCTCTCT
TGGGTGTGG CCTTGCGGT TGGCTGTGG GCCCTTGGG GCCTTGGCT CTGGCTGCTG TGTCTCTCT
30 GTCTCTCCC ACTCTTCT CCGGGGGCT TCCCGGCT CGGGTGGCG GTGTCCCGG CTCCGGCGCG
GCGCGGCTT CGGTGCGG TGGGTGGCG GGGTGGCG GTCCGCGCG CGCCTGGGC CTGTGCTG
TTTTGCTTG TTCCGTTCT GCTGCTCCG TCTGTGTTG GTTGTGTTG TTTCTTCTG GGTGTGGGC
TTGCGTTT GCGTGGG CCTTGGGGC CTGGCTTCT GGCTCCAT CCACATGATT GCTTAGATT
GTGCTGTATC TCTCAGGATT ATCACTGATT ACACATCAA CCAGTGCCAG CCAAAGGAT GCCCTGAGG
35 AAAGGGTTT CATTTGAGG CAAATTGAG GACBTCCB BTGTTGCTT BGBTTGTG TGTCTCTCT
BGBTTTCTB CTGTTTCTB BTCCBCCBG TGCCBCCBB BBGGTGGC TGBGGCBBG GTTCTCTCT
TTGBGGCB TTTGBGB-3' (FRAG. NO:1873) (SEQ. ID NO: 1886)
5'-GBGGCBGGG-3' (FRAG. NO:1874) (SEQ. ID NO: 1887)
5'-GCCBCCBB BBGG-3' (FRAG. NO:1875) (SEQ. ID NO: 1888)
- 40 5'-CGCTGGGCC C-3' (FRAG. NO:1876) (SEQ. ID NO: 1889)
5'-GTCTGTCTCCCCCTCTCTCCC-3' (FRAG. NO:1339)(SEQ. ID NO:1348)
5'-ACTGCTTCTCCCGCGG-3' (FRAG. NO:1340)(SEQ. ID NO:1349)
5'-GCTTCCCGGCTT-3' (FRAG. NO:1341)(SEQ. ID NO:1350)
5'-GGGTGGCCGGTGTCCCGGCTCCGGCGCGGCGG-3' (FRAG. NO:1342)(SEQ. ID NO:1351)
45 5'-GGCTTCGGCTGC-3' (FRAG. NO:1343)(SEQ. ID NO:1352)
5'-GGGTGGGTGGCGCG-3' (FRAG. NO:1344)(SEQ. ID NO:1353)
5'-GCTCCGGGTCCGCGCGGCGCTGGGCC-3' (FRAG. NO:1345)(SEQ. ID NO:1354)
5'-CTTGTGCTGCTTT-3' (FRAG. NO:1346)(SEQ. ID NO:1355)
5'-TGCTTGTCCGTT-3' (FRAG. NO:1347)(SEQ. ID NO:1356)
- 50 5'-TGGTGTCTCCGGTGTGTGTTGGTTGTTT-3' (FRAG. NO:1348)(SEQ. ID NO:1357)
5'-TTTCTTCTGGGTGTGG-3' (FRAG. NO:1349)(SEQ. ID NO:1358)
5'-CCTTGGGTTTTG-3' (FRAG. NO:1350)(SEQ. ID NO:1359)
5'-CTGTGGGCCCTTT-3' (FRAG. NO:1351)(SEQ. ID NO:1360)
5'-GGGCTTGGCTTGGCTC-3' (FRAG. NO:1352)(SEQ. ID NO:1361)
- 55 5'-CATCCACATG ATGTCTAGA TTTGTGCTGT ATCTCTCAGG ATTATCACTG ATTACACATC CAACAGTGC
CAGCCAAAG GATCCCTGA GGCAAAGGT TTCCATCTT AGGCAAATTT GAGGA-3' (FRAG. NO:1353)
(SEQ. ID NO:1362)
5'-CBTCCBCTG BTGCTTGB TTTGTGCTGT BTCTCTCBGG BTTBCTCTG BTTBCTCTC CBCCBGTGC
CBGCCBBBG GTGCCCTGB GCBGBGGT TTCCBTCTT BGGCBTBT GBGB-3' (FRAG. NO:1354)(SEQ. ID NO:1363)

Endothelin Receptor A Nucleic Acid and Antisense Oligonucleotide Fragments

	5'-GCCACCATGG	AAACCCTTGG	CCTCAGGGCA	TCCTTTTGGC	TGGCACTGGT	TGGATGTGTA	ATCAGTGATA
	ATCCTGAGAG	ATACAGCACA	AATCTAAGCA	ATCATGTGGA	TGATTTTCACC	ACTTTTCGTG	GCACAGAGCT
	CAGCTTCCTG	GTTACCACTC	ATCAACCCAC	TAATTTGGTC	CTACCCAGCA	ATGGCTCAAT	GCACAACTAT
5	TGCCCCACAG	AGACTAAAT	TACTTCAGTC	TTCAAATACA	TTAACTACTGT	GATATCTTGT	ACTATTTTCA
	TCGTGGGAAT	GGTCGGGAAT	GCAACTCTGC	TCAGGATCAT	TTACCAGAAC	AAATGTATGA	GGAATGGCCC
	CAACGCGCTG	ATAGCCAGTC	TTGCCCTTGG	AGACCTTATC	TATGTGGTCA	TTGATCTCCC	TATCAATGTA
	TGGCTGGGCG	CTGGCCTTTT	GATCACAATG	ACTTTGGCGT	ATTCTTTTGC	AAGCTGTTC	CCTTTTGTGA
	GAAGTCCTCG	GTGGGGATCA	CCGTCTCAA	CCTCTGCGCT	CTTAGTGTG	ACAGGTACAG	AGCAGTTGCC
10	TCCTGGAGTC	GTGTTCAGGG	AATTGGGATT	CCTTTGGTAA	CTGCCATTGA	AATTGCCTCC	ATCTGGATCC
	TGTCCTTTAT	CCTGGCCATT	CCTGAAGCGA	TTGGCTTCGT	CATGGTACCC	TTTGAATATA	GGGGTGGACA
	GCATAAAACC	TGTATGCTCA	ATGCCACATC	AAAATTCATG	GAGTTCTACC	AAGATGTAAA	GGACTGGTGG
	CTCTTCGGGT	TCTATTTCTG	TATGCCCTTG	GTGTGCACTG	CGATCTTCTA	CACCCTCATG	ACTGGTGAGA
	TGTTGAACAG	AAGGAATGGC	AGCTTGAGAA	TTGCCCTCAG	TGAACATCTT	AAGCAGCGTC	GAGAAGTGGC
15	AAAAACAGTT	TTCGCTTGG	TTGTAATTTT	TGCTCTTTCG	TGGTTCCTC	TTCAATTAAG	CCGTATATTG
	AAGAAACTG	TGTATAACGA	GATGGACAAG	AACCGATGTG	AATTACTTAG	TTTCTTACTG	CTCATGGATT
	ACATCGGTAT	TAACTTGGCA	ACCATGAATT	CATGTATAAA	CCCCATAGCT	CTGTATTTTG	TGAGCAAGAA
	ATTTAAAAAT	TGTATCCAGT	CATGCCTCTG	CTGCTGCTGT	TACCAGTCCA	AAAGTCTGAT	GACCTCGGTC
	CCCATGAACG	GAACTAAGCAT	CCAGTGGAAG	AACCACGATC	AAAACAACCA	CAACACAGAC	CGGAGCAGCC
20	ATAAGGACAG	CATGAAGTGA	CCACCCTTAG	AAGCACTCCT	GAATTCGGGA	AAAAGTGAAG	GTGTAAAAGC
	AGCAACAAGT	CAATGAAGAGA	TATTTCTCTA	AATTTGCCTC	AAGATGGAAA	CCCTTTGCCT	CAGGGCATCC
	TTTTGGCTGG	CACCTGGTGG	ATGTGTAATC	AGTGATAATC	CTGAGAGATA	CAGCACAATC	CTAAGCAATC
	ATGTGGATGA	TTTCACTACT	TTTCGTGGCA	CAGAGCTCAG	CTTCTGGT	ACCACTCATC	AACCACTAA
	TTTGGTCTTA	CCCAGCAATG	GCTCAATGCA	CAACTATTGC	CCACAGCAGA	CTAAAATTAC	TTCAGCTTTC
25	AAATACATTA	ACACTGTGAT	ATCTTGTAAT	ATTTTCATCG	TGGGAATGGT	GGGGAATGCA	ACTCTGCTCA
	GGATCATTTA	CCACAACAAA	TGTATGAGGA	ATGGCCCCAA	CGCGCTGATA	GCCAGTCTTG	CCCTTGGAGA
	CCTTATCTAT	GTGCTCATTG	ATCTCCCTAT	CAATGTATTT	AAGCTGCTGG	CTGGGCGCTG	GCCTTTTGAT
	CACAATGACT	TTGCGGTATT	TCTTTGCAAG	CTGTTCCCTT	TTTTGCAGAA	GTCTCGGTG	GGGATCACCG
	TCCCTAACCT	CTGCGCTCTT	AGTGTGACA	GGTACAGAGC	AGTTGCCTCC	TGGAGTCGTG	TTCAGGGAAT
30	TGGGATTCCT	TTGCTAACCTG	CCATTGAAAT	TGTCTCCATC	TGGATCCTGT	CCTTTATCCT	GGCCATTCCT
	GAAGCGATTG	GCTTCGTCAT	GGTACCCTTT	GAATATAGGG	GTGAACAGCA	TAAAACCTGT	ATGCTCAATG
	CCACATCAAA	ATTCTATGGAG	TTCTACCAAG	ATGTAAAGGA	CTGGTGGCTC	TTCGGGTTCT	ATTTCTGTAT
	GCCCTTGGTG	TGCTCTGCGA	TCTTCTACAC	CCTCATGACT	TGTGAGATGT	TGAACAGAAG	GAATGGCAGC
	TTGAGAATTG	CCCTCAGTGA	ACATCTTAAG	CAGCGTCGAG	AAGTGGCAAA	AACAGTTTTC	TGCTTGGTTG
35	TAATTTTTCG	TCTTTGCTGG	TTCCCTCTTC	ATTTAAGCCG	TATATTGAAG	AAAAGTGTGT	ATAACGAGAT
	GGACAAGAAC	CGAIGTGAAT	TACTTAGTTT	CTTACTGCTC	ATGGATTACA	TCGGTATTAA	CTTGGCAACC
	ATGAAATCAT	GTATAAACCC	CATAGCTCTG	TATTTTGTGA	GCAAGAAATT	TAAAAATTGT	TTCCAGTCAT
	GCCTCTGCTG	CTGCTGTTAC	CAGTCCAAAA	GTCTGATGAC	CTCGGTCCCC	ATGAACGGAA	CAAGCATCCA
	GTGGAAGAAC	CACGATCAAA	ACAACCACAA	CACAGACCGG	AGCAGCCATA	AGGACAGCAT	GAAGTACCA
40	CCCTTAGAAG	CACCTCTCGG	TACTCCCAT	ATCCTCTCGG	AGAAAAAAT	CACAAGGCAA	CTGTGAGTCC
	GGGAATCTCT	TCTCTGATCC	TTCTTCTT	ATTCCTCTCC	ACACCAAGA	AGAAATGCTT	TCCAAAACCG
	CAAGGGTAGA	CTGCTTTATC	CACCCACAAC	ATCTACGAAT	CGTACTTCTT	TAATTGATCT	AATTTACATA
	TTCTGCGTGT	TGTATTCAGC	ACTAAAAAAT	GGTGGGAGCT	GGGGGAGAAT	GAAGACTGTT	AAATGAAACC
	AGAAGGATAT	TTACTACTTT	TGCATGAAAA	TAGAGCTTTC	AAGTACATGG	CTAGCTTTTA	TGGCAGTTCT
45	GGTGAATGTT	CAATGGGAAC	TGGTCACCAT	GAAACTTTAG	AGATTAACGA	CAAGATTTTC	TACTTTTTTT
	AAGTGATTTT	TTTGTCTTTC	AGCCAAACAC	AATATGGGCT	CAAGTCACTT	TTATTTGAAA	TGTCATTGGG
	TGCCAGTATC	CCGAATTC	GAATTCGGGA	AAAAGTGAAG	GTGTAAAAGC	AGCACAAGTG	CAATAAGAGA
	TATTTCTCTA	AATTTGCCTC	AAGATGGAAA	CCCTTTGCCT	CAGGGCATCC	TTTTGGCTGG	CACTGGTTGG
	ATGTGTAATC	AGTATAATC	CTGAGAGATA	CAGCACAAT	CTAAGCAATC	ATGTGGATGA	TTTCACTACT
50	TTTCGTGGCA	CAGAGCTCAG	CTTCTGGT	ACCACTCATC	AACCACTAA	TTTGGTCTTA	CCCAGCAATG
	GCTCAATGCA	CAACTATTGC	CCACAGCAGA	CTAAAATTAC	TTCAGCTTTC	AAATACATTA	ACACTGTGAT
	ATCTTGTAAT	ATTTTCATCG	TGGGAATGGT	GGGGAATGCA	ACTCTGCTCA	GGATCATTTA	CCAGAACAAA
	TGTATGAGGA	ATTTGCCCAA	CGCGCTGATA	GCGAGCTTTC	CCCTTGGAGA	CCTTATCTAT	GTGGTCATTG
	ATCTCCCTAT	CAATGTATTT	AAGCTGCTGG	CTGGGCGCTG	GCCTTTTGAT	CACAATGACT	TTGGCGTATT
55	TCTTTGCAAG	CTGTTCCTCT	TTTTGCAGAA	GTCCTCGGTG	GGGATCACCG	TCCTCAACCT	CTGCGCTCTT
	AGTGTGACA	GGTACAGAGC	AGTTGCCTCC	TGGAGTCGTG	TTCAGGGAAT	TGGGATTCCT	TTGGTAACTG
	CCATTGAAAT	TGCTTCCATC	TGGATCCTGT	CCTTTATCCT	GGCCATTCTT	GAAGCGATTG	GCTTCGTAT
	GGTACCCTTT	GAAATATAGGG	GTGAACAGCA	TAAAACCTGT	ATGCTCAATG	CCACATCAAA	ATTCATGGAG
	TTCTACCAAG	ATGTAAAGGA	CTGGTGGCTC	TTCGGGTTCT	ATTTCTGTAT	GCCCTTGGTG	TGCACTGCGA
60	TCTTCTACAC	CCTCATGACT	TGTGAGATGT	TGAACAGAAG	GAATGGCAGC	TTGAGAATTG	CCCTCAGTGA
	ACATCTTAAG	CAGCTCGAG	AAGTGGCAAA	AACAGTTTTT	TGCTTGGTTG	TAATTTTTCG	TCTTTGCTGG

TTCCCTCTTC ATTTAAGCCG TATATTGAAG AAAACTGTGT ATAACGAGAT GGACAAGAAC CGATGTGAAT
 TACTTAGTTT CTTACTGCTC ATGGATTACA TCGGTATTAA CTGGGCAACC ATGAATTCAT GTATAAACCC
 CATAGCTCTG TATTTGTGA GCAAGAAATT TAAAAATTGT TTCCAGTCAT GCCTCTGCTG CTGCTGTTAC
 CAGTCCAAAA GTCTGATGAC CTCGGTCCCC ATGAACGGAA CAAGCATCCA GTGGAAGAAC CACGATCAAA
 5 ACAACCACAA CACA/GACCGG AGCAGCCATA AGGACAGCAT GAACTGACCA CCCTTAGAAG CACTCCTCGG
 TACTCCATA ATCCTCTCGG AGAAAAAAT CACAAGGCAA CTGTGAGTCC GGGAATCTCT TCTCTGATCC
 TTCTTCCTTA ATTCCTCTCC ACACCCAAGA AGAAATGCTT TCCAAAACCG CAAGGGTAGA CTGGTTTATC
 CACCCACAAC ATCTACGAAT CGTACTTCTT TAATTGATCT AATTTACATA TTCTGCGTGT TGTATTGAGC
 ACTAAAAAAT GGTCTGGAGCT GGGGGAGAAT GAAGACTGTT AAATGAAACC AGAAGGATAT TTAATACTTT
 10 TGCATGAAAA TAGAGCTTTC AAGTACATGG CTAGCTTTTA TGGCAGTTCT GGTGAATGTT CAATGGGAAC
 TGGTCACCAT GAAACTTTAG AGATTAACGA CAAGATTTTC TACTTTTTTT AAGTGATTTT TTTGTCCTTC
 AGCCAAACAC AATA'GGGCT CAAGTCACCT TTATTTGAAA TGTCATTTGG TGCCAGTATC CCGAATTC-3' (FRAG.
 NO: __) (SEQ ID NO: 3014)
 5'-GAATTCGGGA AAAAGTGAAG GTGTAAAAAGC AGCACAAGTG CAATAAGAGA TATTTCTCTCA AATTTGCCTC
 15 AAGATGGAAG CCC'TTGCCT CAGGGCATCC TTTTGGCTGG CACTGGTTGG ATGTGTAATC AGTGATAATC
 CTGAGAGATA CAGCACAAAT CTAAGCAATC ATGTGGATGA TTTCACCACT TTTCGTGGCA CAGAGCTCAG
 CTTCTGGT ACCACTCATC AACCCTACTAA TTTGGTCTTA CCCAGCAATG GCTCAATGCA CAACTATTGC
 CCACAGCAGA CTAATAATTAC TTCAGCTTTC AAATACATTA AACTGTGAT ATCTTGTAAT ATTTTCATCG
 TGGGAATGGT GGGGAATGCA ACTCTGCTCA GGATCATTTA CCAGAACAAA TGTATGAGGA ATGGCCCCAA
 20 CGCGCTGATA GCCAGTCTTG CCCTTGGAGA CCTATCTAT GTGGTCATTG ATCTCCCTAT CAATGTATTT
 AAGCTGCTGG CTGGGCGCTG GCCTTTTGAT CACAATGACT TTGGCGTATT TCTTTGCAAG CTGTTCCCT
 TTTTGCAGAA GTCTCGGTG GGGATCACCG TCCTCAACCT CTGCGCTCTT AGTGTGACA GGTACAGAGC
 AGTTGCCTCC TGGAGTCGTG TTCAGGGAAT TGGGATTCCT TTGGTAACTG CCATTGAAAT TGTCTCCATC
 TGGATCCTGT CCTTATCCTT GGCCATTCTT GAAGCGATTG GCTTCGTCTT GGTACCTTTT GAATATAGGG
 25 GTGAACAGCA TAAACCTGT ATGCTCAATG CCACATCAAA ATTCATGGAG TTCTACCAAG ATGTAAAGGA
 CTGGTGGCTC TTCCGGTTCT ATTTCTGTAT GCCCTTGGTG TGCATGCGA TCTTCTACAC CCTCATGACT
 TGTGAGATGT TGAACAGAAG GAATGGCAGC TTGAGAATTG CCCTCAGTGA ACATCTTAAG CAGCGTCGAG
 AAGTGGCAAA AACAGTTTTC TGCTTGGTTG TAATTTTTGC TCTTTGCTGG TTCCCTCTTC ATTTAAGCCG
 TATATTGAAG AAACTGTGT ATAACGAGAT GGACAAGAAC CGATGTGAAT TACTTAGTTT CTTACTGCTC
 30 ATGGATTACA TCGCTATTAA CTTGGCAACC ATGAATTCAT GTATAAACCC CATAGCTCTG TATTTTGTGA
 GCAAGAAATT TAAATAATTGT TTCCAGTCAT GCCTCTGCTG CTGCTGTTAC CAGTCCAAAA GTCTGATGAC
 CTCGGTCCCC ATGAACGGAA CAAGCATCCA GTGGAAGAAC CACGATCAAA ACAACCACAA CACAGACCGG
 AGCAGCCATA AGGACAGCAT GAACTGACCA CCCTTAGAAG CACTCCTCGG TACTCCATA ATCCTCTCGG
 AGAAAAAAT CACAGGCAA CTGTGAGTCC GGGAATCTCT TCTCTGATCC TTCTTCCTTA ATTCCTCTCC
 35 ACACCAAGA AGAATGCTT TCCAAAACCG TAAGTTTATC CTGGTTTATC CACCCACAAC ATCTACGAAT
 CGTACTTCTT TAATTGATCT AATTTACATA TTCTGCTGT TGTATTGAGC ACTAAAAAAT GGTGGGAGCT
 GGGGGAGAAT GAAAGACTGTT AAATGAAACC AGAAGGATAT TTAATACTTT TGCAATGAAAA TAGAGCTTTC
 AAGTACATGG CTAGCTTTTA TGGCAGTTCT GGTGAATGTT CAATGGGAAC TGGTCACCAT GAAACTTTAG
 AGATTAACGA CAAGATTTTC TACTTTTTTT AAGTGATTTT TTTGTCCTTC AGCCAAACAC AATATGGGCT
 40 CAAGTCACCT TTATTGAAA TGTCATTTGG TGCCAGTATC CCGAATTC-3' (FRAG. NO: __) (SEQ ID NO: 2482)
 5'-GAATTCGGGA AAAAGTGAAG GTGTAAAAAGC AGCACAAGTG CAATAAGAGA TATTTCTCTCA AATTTGCCTC
 AAGATGGAAG CCC'TTGCCT CAGGGCATCC TTTTGGCTGG CACTGGTTGG ATGTGTAATC AGTGATAATC
 CTGAGAGATA CAGCACAAAT CTAAGCAATC ATGTGGATGA TTTCACCACT TTTCGTGGCA CAGAGCTCAG
 45 CTTCTGGT ACCACTCATC AACCCTACTAA TTTGGTCTTA CCCAGCAATG GCTCAATGCA CAACTATTGC
 CCACAGCAGA CTAATAATTAC TTCAGCTTTC AAATACATTA AACTGTGAT ATCTTGTAAT ATTTTCATCG
 TGGGAATGGT GGGGAATGCA ACTCTGCTCA GGATCATTTA CCAGAACAAA TGTATGAGGA ATGGCCCCAA
 CGCGCTGATA GCCAGTCTTG CCCTTGGAGA CCTATCTAT GTGGTCATTG ATCTCCCTAT CAATGTATTT
 AAGCTGCTGG CTGGGCGCTG GCCTTTTGAT CACAATGACT TTGGCGTATT TCTTTGCAAG CTGTTCCCT
 TTTTGCAGAA GTCTCGGTG GGGATCACCG TCCTCAACCT CTGCGCTCTT AGTGTGACA GGTACAGAGC
 50 AGTTGCCTCC TGGAGTCGTG TTCAGGGAAT TGGGATTCCT TTGGTAACTG CCATTGAAAT TGTCTCCATC
 TGGATCCTGT CCTTATCCTT GGCCATTCTT GAAGCGATTG GCTTCGTCTT GGTACCTTTT GAATATAGGG
 GTGAACAGCA TAAACCTGT ATGCTCAATG CCACATCAAA ATTCATGGAG TTCTACCAAG ATGTAAAGGA
 CTGGTGGCTC TTCCGGTTCT ATTTCTGTAT GCCCTTGGTG TGCATGCGA TCTTCTACAC CCTCATGACT
 TGTGAGATGT TGAACAGAAG GAATGGCAGC TTGAGAATTG CCCTCAGTGA ACATCTTAAG CAGCGTCGAG
 55 AAGTGGCAAA AACAGTTTTC TGCTTGGTTG TAATTTTTGC TCTTTGCTGG TTCCCTCTTC ATTTAAGCCG
 TATATTGAAG AAACTGTGT ATAACGAGAT GGACAAGAAC CGATGTGAAT TACTTAGTTT CTTACTGCTC
 ATGGAATTACA TCGCTATTAA CTTGGCAACC ATGAATTCAT GTATAAACCC CATAGCTCTG TATTTTGTGA
 GCAAGAAATT TAAATAATTGT TTCCAGTCAT GCCTCTGCTG CTGCTGTTAC CAGTCCAAAA GTCTGATGAC
 CTCGGTCCCC ATGAACGGAA CAAGCATCCA GTGGAAGAAC CACGATCAAA ACAACCACAA CACAGACCGG
 60 AGCAGCCATA AGGACAGCAT GAACTGACCA CCCTTAGAAG CACTCCTCGG TACTCCATA ATCCTCTCGG
 AGAAAAAAT CACAGGCAA CTGTGAGTCC GGGAATCTCT TCTCTGATCC TTCTTCCTTA ATTCCTCTCC
 ACACCAAGA AGAATGCTT TCCAAAACCG CAAGGGTAGA CTGGTTTATC CACCCACAAC ATCTACGAAT

004040 " 6294560

CGTACTTCTT TAATTGATCT AATTTACATA TTCTGCGTGT TGTATTCAGC ACTAAAAAAT GGTGGGAGCT
 GGGGGAGAAT GAAAGACTGTT AAATGAAACC AGAAGGATAT TTAATACTTT TGCATGAAAA TAGAGCTTTC
 AAGTACATGG CTAGCTTTTA TGGCAGTTCT GGTGAATGTT CAATGGGAAC TGGTCACCAT GAAACTTTAG
 AGATTAACGA CAAAGATTTT TACTTTTTT AAGTGATTTT TTTGTCCTTC AGCCAAACAC AATATGGGCT
 5 CAAGTCACTT TTATTGAAA TGTCATTTGG TGCCAGTATC CCGAATTC-3' (FRAG. NO: __) (SEQ ID NO: 2470)
 5'-GCCACCATGG AAACCCCTTG CCTCAGGGCA TCCTTTTGGC TGGCACTGGT TGGATGTGTA ATCAGTGATA
 ATCCTGAGAG ATACAGCACA AATCTAAGCA ATCATGTGGA TGATTTTACC ACTTTTCGTG GCACAGAGCT
 CAGCTTCCTG GTTACCACTC ATCAACCCAC TAATTTGGTC CTACCCAGCA ATGGCTCAAT GCACAACAT
 10 TGCCACACAGC AGACTAAAAAT TACTTCAGCT TTCAAATACA TTAACACTGT GATATCTTGT ACTATTTTCA
 TCGTGGGAAT GGTGCGGAAT GCAACTCTGC TCAGGATCAT TTACCAGAAC AAATGTATGA GGAATGGCCC
 CAACGCGCTG ATAGCCAGTC TTGCCCTTGG AGACCTTATC TATGTGGTCA TTGATCTCCC TATCAATGTA
 TGGCTGGGCG CTGGCCTTTT GATCACAAATG ACTTTGGCGT ATTCTTTTGC AAGCTGTTC CCTTTTTCGA
 GAAGTCCTCG GTGCGGATCA CCGTCTCAA CCTCTGCGCT CTTAGTGTG ACAGGTACAG AGCAGTTGCC
 TCCTGGAGTC GTGTTCAGGG AATTGGGATT CCTTTGGTAA CTGCCATTGA AATTGCCTCC ATCTGGATCC
 15 TGTCTTTAT CCTGSCATT CCTGAAGCGA TTGGCTTCGT CATGGTACCC TTTGAATATA GGGGTGGACA
 GCATAAAACC TGTATGCTCA ATGCCACATC AAAATTCATG GAGTTCTACC AAGATGTAAG GACTGGTGG
 CTCTTCGGGT TCTATTTCTG TATGCCCTTG GTGTGCACTG CGATCTTCTA CACCCTCATG ACTGGTGAGA
 TGTGAACAG AAGGAATGGC AGCTTGAGAA TTGCCCTCAG TGAACATCTT AAGCAGCGTC GAGAAGTGGC
 AAAAAAGTT TTCGCTTGG TTGTAATTTT TGCTCTTTC TGGTCCCTC TTCATTTAAG CCGTATATTG
 20 AAGAAAACGT TGTATTAACGA GATGGACAAG AACCAGATGTG AATTACTTAG TTTCTTACTG CTCATGGATT
 ACATCGGTAT TAACTTGGCA ACCATGAATT CATGTATAAA CCCCATAGCT CTGTATTTTG TGAGCAAGAA
 ATTTAAAAAT TGTATCCAGT CATGCCTCTG CTGCTGCTGT TACCAGTCCA AAAGTCTGAT GACCTCGGTC
 CCCATGAACG GAACAAGCAT CCAGTGGAAG AACCACGATC AAAACAACCA CAACACAGAC CGGAGCAGCC
 ATAAGGACAG CATGAAGTGA CCACCCTTAG AAGCACTCT-3' (FRAG. NO: __) (SEQ ID NO: 2469)

25 Substance P Antisense Nucleic Acids and Oligonucleotide Antisense Oligonucleotide Fragments

5'-CTGCTGBGGC TTGGTCTCC GGGCGBTCT CTGCBGBBGB TGCTCBBBGG GCTCCGGCBG TTCCTCCTTG
 BTCTGGTCGCT GTCTGBCCBG TCGGBCCBGT BBTTCBGBTC BTCBTGGCT CCTBTCTTCT CTGCBBCBGB
 CTGBGTGGBG BCBHGBBBBB BGBCTGCCBB GGCCBCGBGG BTTCBTGT TGGBTTCGTC GBCGGBCBGT
 30 CCCGCGGGGT GCTGAGTTTC TCTGGTCTC CCGBGCGBCB GTGGTCGCTC CGCGTTCTC TGGTTCCTCC
 GGTCCGCGG GGTGCTGTCT GGTCGCTGTC GTGGCTTGGG TCTCCGGGCG GTTCCTTCC TTTCCGC-3' (FRAG.
 NO:1877) (SEQ ID NO: 1890)
 5'-CTCC GGGCGB-3' (FRAG. NO:1878) (SEQ ID NO: 1891)
 5'-GGCCBCGBGG-3' (FRAG. NO:1879) (SEQ ID NO: 1892)
 5'-GGGTCTCCGGGCG 3' (FRAG. NO:1880) (SEQ ID NO: 1893)
 35 5'-GGG TCTCCGGGCG G-3' (FRAG. NO:1881) (SEQ ID NO:1894)
 5'-CGTGGTCGCTCCG-3' (FRAG. NO:1355)(SEQ. ID NO:1364)
 5'-GTTTCTCTGTTTCTCCG-3' (FRAG. NO:1356)(SEQ. ID NO:1365)
 5'-GTCCCGCGGGGTG-3' (FRAG. NO:1357)(SEQ. ID NO:1366)
 5'-TCTGGTCGCTGTC-3' (FRAG. NO:1358)(SEQ. ID NO:1367)
 40 5'-GGCTTGGGTCTCCGGGCG-3' (FRAG. NO:1359)(SEQ. ID NO:1368)
 5'-GTTTCTCTCTTTTCCGC-3' (FRAG. NO:1360)(SEQ. ID NO:1369)
 5'-CTGCTGBGGC TTGGTCTCC GGGCGBTCT CTGCBGBBGB TGCTCBBBGG GCTCCGGCBG TTCCTCCTTG
 BTCTGGTCGCT GTCTGBCCBG TCGGBCCBGT BBTTCBGBTC BTCBTGGCT CCTBTCTTCT CTGCBBCBGB
 CTGBGTGGBG BCBHGBBBBB BGBCTGCCBB GGCCBCGBGG BTTCBTGT TGGBTTCGTC GBCGGBCBGT
 45 CCCGCGGGGT GCTGAGTTTC TCTGGTCTC CCGBGCGB-3' (FRAG. NO:1882) (SEQ ID NO: 1895)

Substance P Receptor Nucleic Acids and Antisense Oligonucleotide Fragments

5'-GGGCTBBGBT GBTCCBCBTC BCTBCBCBGT TGCCCBCCBC BGBGTCBCC BCBTGBCCG TGTBGGCBGC
 TGCCCBBBGG BCBTTCGCGC BGGCTGGTTG CBCGBBCTGB TTGGGTTCG BGGTGTBTGT GGBGTGTTT
 GGGGBBGGT CTGCTCCBC CGGBGGBCG TTBTCBTTT CBBGCTBGG CGGTBBBGCC CTBCTBTCTG
 50 TBCBCBCCC CCTCTGCBG CBGBGTCTG TCGTGGCGCC TGGGCTCBG GGTCCGGG TAAGATGATC
 CACATCACTA CCACGTTGCC CACCACAGAG GTCACCACAA TGACCGTGA GGCAGCTGCC CAAAGGACAA
 TTTGCCAGGC TGGTGCACG AACTGATTGG GTTCCGAGGT GTTAGTGGAG ATGTTTGGGG AGAGGTCTGA
 GTCCACCGGG AGGACGTTAT CCATTTCGAA GCTAGGCGGT AAAGCCCTAC TATCTGTACA CAACCCCTT
 CTGCAGCAGA GTCTGTGCTG GGCCTGTCG GCTCAGGGTC CGTCTGTCTG TGGCCTGCTG GGCTCTTCTT
 55 TTGTGGGCTC TTCTGTGGCT GTGGCTGTGG TCTCTGTGGT TGCTGCCCTG GGTCTGGGGG TGTGGCCTTG
 GGGCGTCTCT CTGGTCTCTC CTCGTGGGCC CCC-3' (FRAG. NO:1883) (SEQ. ID NO:1896)
 5'-GGGBGGBCG-3' (FRAG. NO:1884) (SEQ. ID NO:1897)
 5'-GGGTC CG-3' (FRAG. NO:1885) (SEQ. ID NO:1898)
 5'-GGGCC CCC-3' (FRAG. NO:1886) (SEQ. ID NO:1899)
 60 5'-GTCCTGTCGTGGCGCTGGGGCTC-3' (FRAG. NO:1361)(SEQ. ID NO:1370)

5'-TTCTTTTGTGGGCT-3' (FRAG. NO:1362)(SEQ. ID NO:1371)

5'-CTTTGGTGGCTGT(GCTG-3' (FRAG. NO:1363)(SEQ. ID NO:1372)

5'-TGGTCTCTGTGGTIG-3' (FRAG. NO:1364)(SEQ. ID NO:1373)

5'-CTGCCCTGGGTCT(G-3' (FRAG. NO:1365)(SEQ. ID NO:1374)

- 5 5'-GGGTGTGGCCTTGGGCCGTCCTCTGGCTCCTCCTCGTGGGCCCC (FRAG.NO:1366)(SEQ.ID NO:1375)
- 5'-GGGCTAAGAT GATCCACATC ACTACCACGT TGCCACCAC AGAGGTCACC ACAATGACCG TGTAGGCAGC
TGCCCAAAGG ACAATTTGCC AGGCTGGTTG CACGAACTGA TTGGGTTCG AGGTGTAGT GGAGATGTTT
GGGGAGAGGT CTGA GTCCAC CGGGAGGACG TTATCCATTTC GAAGCTAGGC GGTAAAGCCC TACTATCTGTA
CACAACCCCC CTCTC CAGCA GAGTCCTGTC GTGGCGCCTG GGGCTCAGGGTCC-3' (FRAG.NO:1367)(SEQ.ID NO:1376)
- 10 5'-GGGCTBBGBT GBTCBCBCTC BCTBCCBCGT TGCCBCCBC BGBGTCBCC BCBTGBCCG TGTBGGCBGC
TGCCBBBGG BCBE TTTGCC BGGCTGGTTG CBCBBCTGB TTGGGTTCG BGGTGTBGT GGBGTGTTT
GGGGBBGGT TGLGTCCBCC TGGGBGGBCGT TBTCBTTTC GBBGCTBGGC GGTBBBGGCC TBCTBTCTGTB
CBCBCCCC CTCTG CBGCB GBGTCCTGTC GTGGCGCCTG GGGCTBGGG TCC-3' (FRAG. NO:1368) (SEQ. ID NO:1377)

Chymase Antisense Nucleic Acids and Oligonucleotides Antisense Oligonucleotide Fragments

- 15 5'-GGBGCTGBTB CTGCBGATTT CBGBGGGBBG BBCCCTGBTB CTCBCCBGCT TCBGCTCTGG BGCBCBBGBG
BBBGBGCBGC BGGGGBBGBG GBBGBBGBBG CBTCTCCCB GBGBGGCTGC CTGBGCBBBT GCTGGTTTTCT
CTTCCBGTG TTGC GTTTTB TBBCTCCCBG BBGGCBGBG BGGGCBGGG CGTTTTCTTC TCTCGCTGGT
TTTCCTTTCC TGGCAGTGGG TGGGGGTGGG GGTGGGGTGG CTTCCTTGTT CTTGGGGTG TCCCTTGCT
CTGGGCTTTT CTCCCTTTT CCTCCTGTC TGTTTCTCTG GGGCTCTCCT CTGTCTCTGT GTCCTTGCCC
- 20 TGGCCCTCTT CCTCCTCTG TCTCCTGTC CTGTGTTCCG CCCGCTTCC
CTCTCCTGAC CTCTTTTCC TCCGCTGGGT GGGGCCCTGC CTGTTCTCTG CTCCCTGGCT TGGGGTTTCT
TCTGTGTGTC TCTCTCTCT GTTGGCTGGC TTTCTCCTTC TTTGTCTTC CTGGGTGCCC CTCTTCCTT
TCTTGGGTCC TTGGTGCTTG GGCTGGG TCCAGTTAA TACATAATCA ATATGCAATT TATTAATACA
TCTCTCCATG TCCCTCCCC CTGTATCTTG CCATTCTTGA CCTGCATTTT CATCCTCCTT ACCTTCCCTA
25 GAGGCCAACT CATTTCTTT GAAAAACCTG GCATTTCCTA GAAAAAAG TGAAGGGCTG GGAGCTGTCC
GTTGTCTGA TTTGCTCCCT CTGCCCTTG TCCCAAATGT GGTGGAAAG AAGCACTATT GAAAAATCCC
TAAACGCACC CCTG CAGGGT TGGCTTACC CTGTAGCCAT GGACACATGC TGTTGATACC ACCTGCCTCA
TGAGTCTCAC ATAA TTTGCC CTTCACACT ATCTACCCA TCAGCCTTAC CAAAACCATA CCTGCATCCT
GGGCAGCATC TGCCCTTCAA GAGACTAAGG AATCTCCTTG CAACCAAGAA TGAAGAGACC AATGAGACAC
30 CCTTTAAGGC CCCAGCACA TATAGAAATC CCACAATATG GTAATCCCAG TAAGGAGCTA TCAAGCCATT
GCAGGACCAT CTAGAATACA ACTAGAGTAT AGTTCCTTTC AATCCAGGAA CTATACTCTA ACAGCTTGGC
TCAAGGAAC CAGAAGTGAA GATGATGAG ATCAGGGCTG AGCCTGTGAG CACCAGCTCC ACCACTGACA
35 CCAACCACAG ATTAACAAG CATCTGTGG ACCCTGGGA TGGAAAGAAT AGTTGTGCTT TTATCAACCT
CCCCACAGC CCACACAGAA AAGATAAAAT CATCATGGCT ACAGTGTTAC AGAAGATGAT GACCAAGGA
GTAGGCCTGC CTGA GTGAAT GCTGAGAGTG ATAATGGGAG CAGTAGCATC TCAGAGACTA CAGCAGAAAC
CATCCACATA AAGA GCTTTG CCCAACTTA TGATAAAGGG CACCCTCAGA GACTCTCCCT ACTTTAATAT
TAGCCCATTG CAGA AATGGT GAGTGGAAG AGAAATCTTA GGAAGAACCC CTAAAAAAG CAAAATGCTT
TTAGGTTTG TGCTAAGAG CCTGGAAGAG AAATAAGGAC ACACACGCTG AGAAATCTTC CTCCTGCCCC
AACACTGGGA TAACTCCAA GGATCTCTCC ATATCTCATT CTCCTGGATA CACTGTCCAC TCAGAAATAT
40 TGTGCAGAT GCAC TAATTC AAAAGTGAGC TATTGTGTTA GGAGTGAAGG CAAGAGTATC TAAAAATAA
TCAAAATTTGA AATCAATTCT CTAAATTTGC TTTAATGATG TTTAATGTAA GCCAGCAGCT ATTAACAGAT
AAACCTTAAA TTCAAGAAAA ACTTGGTCAT TCAGAACTA TAGAAACAGG CAGGACTTAT TGCGAGGGCA
AACACAGAGT GAGCTCCAGC CTGCTCAGG AAAATCTGCC AGTGCCATGA AGGATGTACT CTGTCTGCTC
CACTGCACTA CTGC TCAGTA TGAGCCCATG CCATCAGCTG TCCCTGACCC ACAGGAGTTC TTTAGAAGAG
45 ACTGGTCAAC AAAA GTTTCT AGGGTGTTTT ATACCTGCCA ACTCGAGGGT TAAAAACAAGT TGCATAGAAA
TGCTCAATCA AGAA AGACAC AGTCATTACT CAGAGAATAA TAAACAGCCT GGCAGCACAT GAATGAATAG
AAAAAAGATG TTACATGCAA AGCATGAAAT AACCAAATTC CATAACAGAT GTTAATCTGT AATGTGTTTA
GGAGAATTTA GAGGAAGTAT AAGATTTATT CTTTCATCAA AAAAATTATA GCCAATGAGG ATATATCTAT
CAATTATCCA TCAAGTGGTG ATATGGCAGC ACAAGGTAAA ACACAAAGGA ATAAAAACCA CGTTTATTAA
50 GAACCAATCA TGTGTCATTT CACATTGAGC ATCATATTTA ATTCTGAAAA AAATCCTTGT ACTGTATCAT
TCTTCATATT TTATGATGC AGTAACTAAG GCTGAGAACT TTAATAATTT TCCTAAGTTC AGACACATAG
CTAAGTGGCA GAACCAAGAT TCAAACTCAC CCCATCTAAC TGCAGAGCAA ACTGCATGCC TTAAATGTCA
AAGTGAATAC TAGCACAGTT AATACAATGT TTGGAACCTC AGAGAAGGAA TGATCCCTCT GCATTATAGT
TACTAAGGAA TCA TGGCAT TATTTAAATG CCAGTGCTTC TACATCAGGC CCAAATTTTC TGTCTACTA
55 ACTGTGAATC AAGACTTGAT TCAACCTCTA CTGTAGTATC TGCCGCAATG AGAAATCACT TACCTCCACT
AACCACACAT TTA TTTTATA ACAACAGATT GTTAGTAAGT CTTTCTTAT ACATACTCAA CAGCTGCTTC
CCAAGATGCT GTACGATTAT GTCTAGAGTC AAAGTAGCCA GAAGCAATGT CCAAAATACA CCATAACACT
GTGCAGCAAA GGTCTACTA CCACTGTGTT GGCCCAACA TTCTAGGCAG CACTGGATAT CTGAATCATC
AATTATTTCC ACAACACTG ACCCTCTAC CAGTCACCCT CACTAGAAGA ATTAATTTCA CATGATAATA
60 GTCCTCAT GTTACTCCCT TCTAAGTCAA ATTGTACACC CCTTATCTG ATTAACAGAG TCTAAGTCAC
ATGACCTAAA TGCAGAGAA CTGGGAATGG ACGTTTGTGG ATTCTACCTT AGTAAGGCAA AGTTATCATT

[illegible]

[illegible]

Socioeconomic and demographic characteristics	
Age (years)	Mean (SD)
Male	50.8 (10.2)
Female	50.2 (10.1)
Marital status	
Married	75.2
Single	24.8
Education (years)	Mean (SD)
High school or less	12.5 (2.1)
College or more	16.2 (1.8)
Income (USD/year)	Mean (SD)
<10,000	15.2 (5.1)
10,000-20,000	25.8 (8.2)
>20,000	35.2 (12.1)
Health insurance	
Medicaid	65.2
Private	34.8
Uninsured	0.0
Employment status	
Employed	45.2
Unemployed	54.8
Retired	0.0
Comorbidities	
Hypertension	35.2
Diabetes	25.8
Cholesterol	15.2
Smoking status	
Current smoker	15.2
Former smoker	35.2
Never smoker	49.6
Alcohol consumption	
Regular drinker	15.2
Occasional drinker	35.2
Non-drinker	49.6
Family size	Mean (SD)
1-2	25.2 (15.1)
3-4	35.2 (20.1)
5 or more	39.8 (25.1)
Health status	
Good	45.2
Fair	35.2
Poor	19.6

GACTTTGGGC TGAAGAGACTT TAGTCTGTGT TTGAATAGTT CCTTGAGCCT CAGTCACTGA GCTAAGCTCC
 CTTCCGAGGA AAAAGGAGGTC CTGTCCGAAG GTCCCTCTTG TTGCAGTAGC ACCCTCACC CCTACCCAAC
 TCAAGACACA CGGCTCACTT TTCAGGGCCC CACCCAGTCT CAGGGCCACT TCCTCTATGG CCTTTTCAAG
 AACATGGCT CTAGTTCTCA GGGTCTTGAA CCCATCATT TATGGGAGCA GAGAACAGGT CTACATAAGA
 5 CCCCCACTTT CCCCCTTTTAA CTGATATCTC CTGCTTCAGG GGCTGGCCCT CATGCAGGGT TCCCTGAATT
 AGGAAGTGTG AACCTGTGTC CCTGAGTCCT CCCTGGCCTG TTCAGTCCCC AGCAATTCCA GGGGTCGTAG
 AAATTGTGTC TGTTTCCTGA GAAAGCTCTT TCATGAGTTA AGCCTGAGCC CTCAAATGCC ACAAGTGGCC
 CATGAAAAGG GAGATGGGTA GAGTCCGCGN ACCCAGTGAC AGAGTTTAGT CCTCTTTTCT CAGAATGAGC
 TCACCTCAGA AGAACCCTCA AGCCATCACT GTCGCTCCT TTTCCTTCCT TCTTCTCAC AGCAGGTCTA
 10 TAACAGTCAC CCTTGGAGCC CATAACATAA CAGAGGAAGA AGACACATGG CAGAAGCTTG AGGTTATAAA
 GCAATTCCTG CATCAAAAT ATAACACTTC TACTCTTAC CACGATATCA TGTTACTAAA GGTGACAACA
 CCTCTCTTCT CCTTTCAC TTCCATTCT CTAAGCTTC TCCTTCAGGT CCTCATGTC CTGAATTTT
 CTTAGGACTT GGCATAACA TGAAGCTACT CACCCTGCC CTCCCTGATC ACCTCCAAC GTCCAGAGCC
 CATTTCGAGG ACTACAGTC CTTCATTCCC TTCACAGTTG AAGGAGAAAG CCAGCCTGAC CCTGGCTGTG
 15 GGGACACTCC CCTCCCATC ACAATTCAAC TTTGTCCAC CTGGGAGAAT GTGCCGGGTG GCTGGCTGGG
 GAAGAACAGG TGTTTGAAG CCGGGCTCAG AACTCTGCA AGAGGTGAAG CTGAGACTCA TGGATCCCA
 GGCCTGCAGC CACTCAGAG ACTTGACCA CAATCTCAG CTGTGTGTGG GCAATCCCAG GAAGACAAA
 TCTGCATTA AGGTGATCCT CCAACTAGGT TTCCTCTCCA AAACCTACTG TTCAGGGACT TGAATGCTCT
 TAGAAGGAGA TGGGTGTCAG AGGTTGTGAG TCAGGTGACA GGGTGAGCAT CACAGGAATT GCTGTCTCTC
 20 CGTGGTCCAA GACA.GCCTCT GACCATCCAT TCCAGTGTAC TGCAGTGGG GCATGGGGTG ACTGTGAGA
 ATGTGGATGA CGGTCCCAAG AAAGGAAGAA GGGGCATCAG AACTAGATGT ATAAGTGAGG AGCTCCACCT
 CCTGGGTCTG ACTTAGGTC TCACTGTGAC TCCAAGCTGG CTGGCAGACA GGAGTGAGG ACTTCCCGGG
 CTCACCTTCT TCTCTCTC CTCCCCCTAC AGGGAGACTC TGGGGGCCCT CTCTGTGTG CTGGGGTGGC
 CCAGGGCATC GTATCCTATG GACGGTCGGA TGCAAAGCCC CCTGCTGTCT TCACCCGAAT CTCCATTAC
 25 CGGCCCTGGA TCAACAGAT CCTGCAGGCA AATTAATCCT GGATCCTGAG CCAGCCTGAA GGAAGCTGG
 AACTGGACCT TAGCAGCAA GTGTGTGCAA CTCATTCTGG TTCTACCCTT GGTCCCTCA GCCACAACCC
 TAAGCCTCA AGAGTCTCC TACAGGTAAC AGAACTTCA ATAACTTCA GTGAAGACAC AGCTTCTAGT
 CGTGAGTGTG TGCTCTCTC TGCTGCTCTC TTCTCTGCA CATGTGACCT GATCCCAGC CCAAGCACA AGGA-3'
 (FRAG. NO:) (SEQ. ID NO:2467)
 30 5'-GGBGCBGBG-3' (FRAG. NO:1888) (SEQ. ID NO:1901)
 5'-GGBGCBGC-3' (FRAG. NO:1889) (SEQ. ID NO:1902)
 5'-GGGGCBGG CG-3' (FRAG. NO:1890) (SEQ. ID NO:1903)
 5'-CGTTTTCTCTCTC-3' (FRAG. NO:1369)(SEQ. ID NO:1378)
 5'-GCTGGTTTTCTTTCC-3' (FRAG. NO:1370)(SEQ. ID NO:1379)
 35 5'-TGGCAGTGGGTGGGGGTGGGGGTGGGGTGGC-3' (FRAG. NO:1371)(SEQ. ID NO:1380)
 5'-TTCTTGTGTTCTGGGGGTGCTCT-3' (FRAG. NO:1372)(SEQ. ID NO:1381)
 5'-CTTGCTCTGGGCTTTCT-3' (FRAG. NO:1373)(SEQ. ID NO:1382)
 5'-CCCCTTTTCTTCC-3' (FRAG. NO:1374)(SEQ. ID NO:1383) [
 5'-TGCTGTGTTTTCTTGGGG-3' (FRAG. NO:1375)(SEQ. ID NO:1384)
 40 5'-CTCTCTCTGTCTCTGTGT-3' (FRAG. NO:1376)(SEQ. ID NO:1385)
 5'-CCTTGCCCTGGCC-3' (FRAG. NO:1377)(SEQ. ID NO:1386)
 5'-TCTTCCCTCTCTGTCTCTGT-3' (FRAG. NO:1378)(SEQ. ID NO:1387)
 5'-CCCTGTGTTCCGCC-3' (FRAG. NO:1379)(SEQ. ID NO:1388)
 5'-GTCTTCCCTCTCTG-3' (FRAG. NO:1380)(SEQ. ID NO:1389)
 45 5'-ACCTCTTTCTCTCCG-3' (FRAG. NO:1381)(SEQ. ID NO:1390)
 5'-CTGGGTGGGGCCCTG-3' (FRAG. NO:1382)(SEQ. ID NO:1391)
 5'-CCTGTTCTCTGCTCCC-3' (FRAG. NO:1383)(SEQ. ID NO:1392)
 5'-TGGCTTGGGGTTTCTCTG-3' (FRAG. NO:1384)(SEQ. ID NO:1393)
 5'-TGTTCTTCTCTCTGT-3' (FRAG. NO:1385)(SEQ. ID NO:1394)
 50 5'-GGCTGGCTTTCTCTC-3' (FRAG. NO:1386)(SEQ. ID NO:1395)
 5'-TTTTGTCTTCTGCG-3' (FRAG. NO:1387)(SEQ. ID NO:1396) [1397]
 5'-TGCCCTTCTCTCTTCTTGGG-3' (FRAG. NO:1388)(SEQ. ID NO:1397)
 5'-TCCTTGGTGTGCTGCTGGG-3' (FRAG. NO:1389)(SEQ. ID NO:1398)
 5'-GGBGCTGBTB CTGCBGATTT CBGBGGBBG BBCCCTGBTB CTCBCCBGCT TCBGCTCTGG BGCBCBBGBG
 55 BBBGBGCBGC BGGGGBGBG GBBGBGBG CBTCTCCCB GBGBGGCTGC CTGBGBBBT GCTGGTTTTC
 CTTCCBGTCT TGGGTTTCTB TBBCTCCCBG BBGGCBGBG BGGGGCBGG-3' (FRAG.NO:1891) (SEQ.ID NO:1904)

Endothelial Nitric Oxide Synthase Nucleic Acids and Antisense Oligonucleotide Fragments

5'-GCGTCTTGGG GTGCBGGGCC CBTCTGTCTG CGCTGGGCG CTGCTGTGCG TCCGTCTGCT GGGGGGCCGG
 GGTGGCTGGG CCCGCTTGC CGCACGACC CGGGCCGACC CGAGGCTCGG GGGGCTGTGT TCTGGCGCTG
 60 GTGGGCTTGG GCCCTCTGG GGGCTGGGT TCCTGTGCG CCTGGGCGCT GCGTCTTGG GGTGCGGGGC
 CGGGGGGCCG GGGGCGCGCT GTTCGTGGGC CTGGGGGTGC CTGTGGCTGC CGGTGCCCC GGTGTGGTGC

GCCGTCCTGC TGCCGGTCGT TGGCTGGGTC CCCCCGCCCC TTCTCTGGGG TCCGCGTGGG GTGCTCCGGT
 TCCTCGTGCC GCTGCTGCC TGTCTTCCG GCCGTGGCGG CGTGGTGGTC CGCCCCCCT GGCTTCTGTC
 TCGGGGTCTG GCTC GTTGCC GGTGCCCTTG GCGGCGGTCT TCTTCCTGGT GGCTCTGGGC CCGGCCGGTC
 TCGGGCGTCT CGTC TTCGCT CTTGTGCTGT TCCGGCCGCT CCTTCCTCTT CGCCCGCCGC CGTCCCCGC
 5 CCGCTCGTCG CCGTGGCCCG GCCTCCTCCT GGCCTGTGTC TCGGGCGGCG GCCTTGCGCG TCCGTTTGGG
 GCTGCCTCTG GCGCTTCCGG CCCTCGGCCT GGGCGCTCTC TTCCGCTGT GCTGGTGGCC CTCGTGGGCC
 CCTCCTGGCC TCCGCTGTCC TGTGGTCCCC CGGCTGGTGG CCGGGCCGGT TGGGCGGGCG TGGGCGCCGG
 CGGGTCCTCC GGGCTGCCCT TCTCCGCCG GGGTCCCGCG CTCTGCTGT TCCCTGGGCT CTTCTGCCTC
 TCTCCTGGGT GGGTGTGGG TGCCGGGGTC TCCGGGCTTG CCCCCTGTG CTGGGCGTTC TCGGCTCTG
 10 GGGTGTGCTG TGGC CCGCT CGTGTGCCCC TCCGTGCCCC GTCGCCGGCC TCGTCCCCCT CTGGGTGCGC
 GGGGGGCTGG TCCGTGGCTT TTGCTCCTTC CTGGGCGTCT TGGGGTGCBG GGCCCBCTCT GCTGCGCTG
 GCGCTGCTG TGGCTCCGTC TGGTGGGGG CCGGGGTGGC TGCGGCTGC TTGGCCCTGC TTGCCGACG ACCCGGGCC
 GACCCGAGGC TCGCGGGGCT GTGTCTGGC GCTGGTGGC TTGGGCCCT CTGGGGCTG GGTTCCTGC
 TGCGCCTGGG CGCTGGCGTC TTGGGGTGG GGGCCGGGGG GCCGGGGGGC CGCTGTTCGT GGGCTGGGG
 15 GTGCCTGTGG CTGC CGGTTG CCCCCTGGT TGGCGCCGTC CTGCTGCCG TCGTGGCTG GGTCCCCCG
 CCCGTTTCTT GGGCTCCGCG TGGGGTGCTC CGGTTCTCTG TGCCGCTGCT GCCTGTCTT TCCGGCCGTG
 GCGGCGTGGT GGTTCGCCCC CCCTGGCCTT CTGCTCGGGG TCTGGCTGGT TGCCGGTGCC CTTGGCGCG
 GTCTTCTTCC TGGTGTCTCT GGGCCCGGCC GGTCTCGGGC GTCTCGTGT CGCTCTGTG CTGTCCGGC
 CGCTCCTTCC TCTTCCGCG CCGCCGCTCC CCGCCCGCTC GTCGCCCTGG CCCGGCCTCC TCCTGGCCGC
 20 TGTCTCGGGC GGCCTGCTTG TGCTCCGCTT TGGGGCTGCC TGTGGCGCTT TGTGGCGCTT CCGGCCCTCC
 TCTCTCCGC CTGTGTGGT GGCCTCGTG GGCCTCCTT GGCCTCCGT GTCTGTGGT CCGCCGCTG
 GTGGCCGGG CGGTGGGGC GCGTGGGGC CCGCGGGTC CTCCGGGCTG CCCTTCTCC CCGGGGGTCC
 CGCGCTCCTG CTGTCCCTG GGTCTTCTG CCTCTCTCT GGGTGGGTG TGGGTGCCG GGTCTCCGG
 CTTGCCCGC GCTCCTGGG GTTCTGCGGT CTTGGGGTGT TGTGTGGCC CGCTCGTGT GCCCTCCGTC
 25 GCCGTCGCC GGCCTCGTCC CCTCTGGGT GCGCGCGGG CTGGTCTGG CGTTTGTCT CTCTCTGG-3' (FRAG.
 NO:1892) (SEQ. ID NO 1905)
 5'-GCGGGGCGG-3' (FRAG. NO:1893) (SEQ. ID NO: 1906)
 5'-CGGGGGGC-3' (FRAG. NO:1894) (SEQ. ID NO: 1907)
 5'-GCGGCGGGC-3' (FRAG. NO:1895) (SEQ. ID NO: 1908)
 30 5'-CTGTGCGTCCGCTGCTGG (FRAG. NO:1390)(SEQ. ID NO:1399)
 GGGGCCGGGGTGGCTGGGCCCTGCTTGCCGC (FRAG. NO:1391)(SEQ. ID NO:1400)
 ACGACCCCGGCCGACCCGAG (FRAG. NO:1392)(SEQ. ID NO:1401)
 GCTCGGGGGCTGTGTTCTGGCGCTGGTGGG (FRAG. NO:1393)(SEQ. ID NO:1402)
 CTTGGGGCCCTCTGGGGGCTGGGTT (FRAG. NO:1394)(SEQ. ID NO:1403)
 35 TCCTGTGCGCCTGGGCGCTG (FRAG. NO:1395)(SEQ. ID NO:1404)
 GCGTCTTGGGGTGC (FRAG. NO:1396)(SEQ. ID NO:1405)
 GGGGCCGGGGGGCCGGGG (FRAG. NO:1397)(SEQ. ID NO:1406)
 GCCGCTGTTCGTGGGCTGGG (FRAG. NO:1398)(SEQ. ID NO:1407)
 GGTGCCTGTGGCTGCC (FRAG. NO:1399)(SEQ. ID NO:1408)
 40 GGTGCCCCGGTTGGTGGC (FRAG. NO:1400)(SEQ. ID NO:1409)
 GCCGCTCTGTGCCGCT (FRAG. NO:1401)(SEQ. ID NO:1410)
 CGTTGGCTGGGTCCCTCCGC (FRAG. NO:1402)(SEQ. ID NO:1411)
 CCGTTTCTTGGGGTCC (FRAG. NO:1403)(SEQ. ID NO:1412)
 GCGTGGGGTGTCTC (FRAG. NO:1404)(SEQ. ID NO:1413)
 45 GGTTCCTCGTGCCG (FRAG. NO:1405)(SEQ. ID NO:1414)
 CTGCTGCCTGTCTTCC (FRAG. NO:1406)(SEQ. ID NO:1415)
 GGCCGTGGCGCGTGGTGGTCC (FRAG. NO:1407)(SEQ. ID NO:1416)
 GCCCCCTTGGCCTTCTGCTC (FRAG. NO:1408)(SEQ. ID NO:1417)
 GGGGTCTGGCTGGT (FRAG. NO:1409)(SEQ. ID NO:1418)
 50 TGCCGGTGCCCTGGGCGC (FRAG. NO:1410)(SEQ. ID NO:1419)
 GGTCTTCTTCTGGTCT (FRAG. NO:1411)(SEQ. ID NO:1420)
 GCTCTGGGCCCGCCGTCTCGG (FRAG. NO:1412)(SEQ. ID NO:1421)
 GCGTCTCGTGTTCG (FRAG. NO:1413)(SEQ. ID NO:1422)
 CTCTGTGCTGTTCCTCCG (FRAG. NO:1414)(SEQ. ID NO:1423)
 55 CTCCTTCTTCCGCGCC (FRAG. NO:1415)(SEQ. ID NO:1424)
 GCCGCTCCCCGCC (FRAG. NO:1416)(SEQ. ID NO:1425)
 GCTCGTCGCCCTGGCTC (FRAG. NO:1417)(SEQ. ID NO:1426)
 GGCTCTCTCTGGCCGC (FRAG. NO:1418)(SEQ. ID NO:1427)
 TGTCTCGGGCGGCGCTTGGC (FRAG. NO:1419)(SEQ. ID NO:1428)
 60 GCTCCGTTTGGGGCTG (FRAG. NO:1420)(SEQ. ID NO:1429)
 CCTCTGGCGCTTCC (FRAG. NO:1421)(SEQ. ID NO:1430)
 GGCCCTCGGCTGGGCTCTC (FRAG. NO:1422)(SEQ. ID NO:1431)

00440" 62924560
 00440" 62924560

- TCTTCCGCCTGTGC (FRAG. NO:1423)(SEQ. ID NO:1432)
 TGGTGGCCCTCGTGG (FRAG. NO:1424)(SEQ. ID NO:1433)
 GCCCCTCTGGCCTC(GGTGTCC (FRAG. NO:1425)(SEQ. ID NO:1434)
 TGTGGTCCCCCGGTGGT (FRAG. NO:1426)(SEQ. ID NO:1435)
 5 GGCCGGGCGCGGTTGGGCGGGC (FRAG. NO:1427)(SEQ. ID NO:1436)
 GTGGGCGCCGCGGGTCCTCC (FRAG. NO:1428)(SEQ. ID NO:1437)
 GGGCTGCCCTTCTCC (FRAG. NO:1429)(SEQ. ID NO:1438)
 GCCGGGGTCCCGC (FRAG. NO:1430)(SEQ. ID NO:1439)
 GCTCCTGCTGTTCCCTGGGCTCTCTGCC (FRAG. NO:1431)(SEQ. ID NO:1440)
 10 TCTCTCCTGGGTGGG' GCTGGGTGCCG (FRAG. NO:1432)(SEQ. ID NO:1441)
 GGGTCTCCGGGCTTG (FRAG. NO:1433)(SEQ. ID NO:1442)
 CCCCgcGTGCTGGG' GTTCTGC (FRAG. NO:1434)(SEQ. ID NO:1443)
 GGTCTTGGGGTTGTC (FRAG. NO:1435)(SEQ. ID NO:1444)
 TGTGGCCCCGCTCG (FRAG. NO:1436)(SEQ. ID NO:1445)
 15 TGTCGCCCTCCGTCG(C (FRAG. NO:1437)(SEQ. ID NO:1446)
 CGTCGCCCGCCTCGT(C (FRAG. NO:1438)(SEQ. ID NO:1447)
 CCTCCTGGGTGCGC (FRAG. NO:1439)(SEQ. ID NO:1448)
 GGCGGGCTGGTCCT (FRAG. NO:1440)(SEQ. ID NO:1449)
 GGGCTTTTGCTCCTT(C'TGG (FRAG. NO:1441)(SEQ. ID NO:1450)
 20 5'-GCGTCTTGGGGTG(C'BGGGCCCBTCCTGCTGCGCCTGGGCGCTG-3'(FRAG. NO:1896) (SEQ. ID NO: 1909)

Inducible Nitric Oxide Synthase Nucleic Acids and Antisense Oligonucleotide Fragments

- 5'-CTGCCCCBGT TT' TGBTCCT CCBTGGCCGT GGGGBGGBCB BTGGCTGCCT CCCCggggTT TCTGCTGCTT
 GCTGCTTCTT TCCGCTCTCC CTCTTTTCCC GTCTCCTTTT TGCCTCTTTG GGTTCTGTGT GTTTCTGGCC
 TGCTTGGTGG CGGCTTGTGC GTTTCCTCTC TCTTCTCTTG GGTCTCCGCT TCTCGTCTG CTTTTCCTG
 25 TCTCTGTGC GCGCTTCTC CTCCGGCGTC CTCTGCCCT GTGCTGTTT CCTCGGGTGG TGCGGGTCCC
 GGTGCTCCCC CGGCGGGCCG GCTGGTTGCC TGGGCTGTG TGGTGGGGTG TGGGGCCGCT GGGTTGGGGG
 TGTGGTGGGC TCTCTGTGG CCTGTGGGGC TGTGTGTGTC TCTGTGGGCG TGTGCTGGGT CTTGGGGCTT
 CCTCCCTTGT GCTGGGTGCG GCCTCCCCGC CCCCCTTCTG GGCCGGTGGC CTGGCTCCTT GTGGGCGCTT
 CTGGCTCTTG CCTGTCTT CTTCGCTCG TGGTGTCTGG GCTGC CATATGTATG GGAATACTGT ATTTCAGCA
 30 TTATAAGGAA TGAATTATATA GGCCGGGCAT TGTGGCTAAC CCTGTGAATC CTAGCACTTT GAGAGGCTGA
 AGTGGGACAGA TCACTTGAGC TTCAGAGTTC GAGACCAGCA TGGACAACAT GGTGAAACCC AGTCTCTACC
 AAAAACACAA AAATATTAGC TGGGTGTGGT GGTGCATGCC TGTAGTCCCA GCTACTCAGG AGGCTGAGGT
 GGGAGGATCG CTTCAGCCTG GGAGGCAGAA GTTGCAATGA GCAGAGATCG TGCCACTCCG CTCAGTCTT
 35 GGTGACAGAA TGAAGCTCCA TCTCAAAAAT AAATAAATAA ATAAATAAAA TAAATGAAAT GAAATTATAA
 GAAATTACCA CTCTTTCATG TAAGAAGTGA TCATTTCAT TATAAGGGAA GGAATTTAAT CCTACCTGCC
 ATTCCACCAA AGCTTACCTA GTGCTAAAGG ATGAGGTGTT AGTAAGACCA ACATCTCAGA GGCTCTCTG
 TGCCAATAGC CTCTTCTCT TCCCTTCCA AAAACCTCAA GTGACTAGT CAGAGGCCTG TCTGGAATAA
 TGGCATCATC TAAATCACT GGCCTTCTGG AACCTGGGCA TTTTCCAGTG TGTTCCATAC TGTCAATATT
 CCCCAGCTT CCTGGACTCC TGTCACAAGC TGGAAAAGTG AGAGGATGGA CAGGGATTA CCAGAGAGCT
 40 CCTGTGTGAG GAAATAATCT CCCAGATGCT GAAAGTGAGG CCATGTGGCT TGCCAAATA AAACCTGGCT
 CCGTGGTGCC TCTCTTAG CAGCCACCCT GCTGATGAAC TGCCACCTTG GACTTGGGAC CAGAAAGAGG
 TGGGTGGGT GAAGAGGCAC CACACAGAGT GATGTAACAG CAAGATCAGG TCACCCACAG GCCCTGGCAG
 TCACAGTCAT AAATAGCTA ACTGTACACA AGCTGGGAC ACTCCCTTG GAAACCAAAA AAAAAAAAAA
 AAAAAAGAGA CCTTATGCA AAAACAATC TCTGGATGGC ATGGGGTGAG TATAAATACT TCTTGGCTGC
 45 CAGTGTGTTT ATAATCTTGT AGCGAGTCGA AAAGTGAGG TCCGGCCGCA GAGAACTCAG CCTCATTCCT
 GCTTTAAAT CTCTCGGCCA CCTTGATGA GGGGACTGGG CAGTTCTAGA CAGTCCCGAA GTTCTCAAGG
 CACAGGTCTC TTCC'GGTTT GACTGTCTT ACCCGGGGA GGCAGTGCA CCAGCTGCAA GGTGAGTTGC C
 CATATGTATG GGAATACTGT ATTCAGGCA TTATAAGGAA TGAAATTATA GGCCGGGCAT TGTGGCTAAC
 CCTGTAAATC CTACCACTT GAGAGGCTGA AGTGGGCAGA TCACTTGAGC TTCAGAGTTC GAGACCAGCA
 50 TGGACAACAT GGTGAAACCC AGTCTTACC AAAAACACAA AAATATTAGC TGGGTGTGGT GGTGCATGCC
 TGTAGTCCCA GCTCTCAGG AGGCTGAGGT GGGAGGATCG CTGAGCCTG GGAGGCAGAA GTTGCAATGA
 GCAGAGATCG TGCACTCCG CTCCAGTCTT GGTGACAGAA TGAGACTCCA TCTCAAAAAT AAATAAATAA
 ATAAATAAAA TAAATGAAAT GAAATTATAA GAAATTACCA CTTTTCATG TAAGAAGTGA TCATTTCCAT
 TATAAGGGAA GGAATTTAAT CCTACCTGCC ATTCCACCAA AGCTTACCTA GTGCTAAAGG ATGAGGTGTT
 55 AGTAAGACCA ACACTCAGA GGCCTCTCTG TGCCAATAGC CTTCCTTCTT TTCCCTTCCA AAAACCTCAA
 GTGACTAGT CAGAGGCCTG TCTGGAATAA TGGCATCAT TAATATCACT GGCCTTCTGG AACCTGGGCA
 TTTTCCAGTG GTTCCATAC TGTCAATATT CCCCCAGCTT CCTGGACTCC GTGCACAAGC TGGAAAAGTG
 AGAGGATGGA CAGGATTAA CCAGAGAGCT CCCTGTGAG GAAAAAATCT CCCAGATGCT GAAAGTGAGG
 CCATGTGGCT TGGCAAATA AAACCTGGCT CCGTGGTGCC TCTGTCTTAG CAGCCACCCT GCTGATGAAC
 60 TGCCACCTTG GACTTGGGAC CAGAAAGAGG TGGGTGGGT GAAGAGGCAC CACACAGAGT GATGTAACAG
 CAAGATCAGG TCACTCACAG GCCCTGGCAG TCACAGTCAT AAATTAGCTA ACTGTACACA AGCTGGGGAC



	ACTCCCTTTG	GAAACCAAAA	AAAAAAAAAA	AAAAAAGAGA	CCTTTATGCA	AAAAACAAC	TCTGGATGCG
	ATGGGGTGAG	TATAAATACT	TCTTGGCTGC	CAGTGTGTTC	ATAACTTTGT	AGCGAGTCGA	AAACTGAGGC
	TCCGGCCGCA	GAGAACTCAG	CCTCATTCCT	GCTTTAAAAAT	CTCTCGGCCA	CCTTTGATGA	GGGGACTGGG
	CAGTTCTAGA	CAGTCCCGAA	GTTCTCAAGG	CACAGGTCTC	TTCCTGGTTT	GACTGTCCTT	ACCCCGGGGA
5	GGCAGTGCAG	CCAGCTGCAA	GGTGAGTTGC	C-3' (FRAG. NO:)	(SEQ. ID NO: 3016)		
	5'-CTGCTTTAAA	ATCTCTGGC	CACCTTTGAT	GAGGGGAGTG	GGCAGTCTTA	GACAGTCCCG	AAGTTCTCAA
	GGCACAGGTC	TCTTCTGGT	TTGACTGTCC	TTACCCCGGG	GCGCAGTGC	AGCCAGCTGC	AAGCCCCACA
	GTGAAGAACA	TCTCAGCTCA	AATCCAGATA	AGTGACATAA	GTGACCTGCT	TTGTAAAGCC	ATAGAGATGG
	CCTGTCCTTG	GAAATTTCTG	TTCAAGACCA	AATTCCACCA	GTATGCAATG	AATGGGGAAA	AAGACATCAA
10	CAACAATGTG	GAGAAAGCCC	CCTGTGCCAC	CTCCAGTCCA	GTGACACAGG	ATGACCTTCA	GTATCACAAC
	CTCAGCAAGC	AGCAGAATGA	GTCCCCGCAG	CCCCTCGTGG	AGACGGGAAA	GAAGTCTCCA	GAATCTCTGG
	TCAAGTCTGA	TGCAACCCCA	TTGTCTCTCC	CACGGCATGT	GAGGATCAAA	AACTGGGGCA	GCGGGATGAC
	TTTCCAAGAC	ACACTTCACC	ATAAGGCCAA	AGGAGTTTAA	ACTTGCAGGT	CCAAATCTTG	CCTGGGGTCC
	ATTATGACTC	CCAAAGGTTT	GACGAGAGGA	CCCAGGGACA	AGCCTACCCC	TCCAGATGAG	CTTCTACCTC
15	AAGCTATCGA	ATTGTGTAAC	CAATATTACG	GCTCCTTCAA	AGAGGCAAAA	ATAGAGGAAC	ATCTGGCCAG
	GGTGGAAGCG	GTAAACAAGG	AGATAGAAAC	AACAGGAACC	TACCAACTGA	CGGGAGATGA	GCTCATCTTC
	GCCACCAAGC	AGGCTGTGGC	CAATGCCCCA	CGTGCATTG	GGAGGATCCA	GTGGTCCAAC	CTGCAGGTCT
	TCGATGCCCC	CAGCTGTTC	ACTGCCCGGG	AAATGTTTGA	ACACATCTGC	AGACACGTGC	GTACTCCAC
	CAACAATGGC	AACATCAGGT	CGGCCATCAC	CGTGTTCCCC	CAGCGGAGTG	ATGGCAAGCA	CGACTTCCGG
20	GTGTGGAATG	CTCAGCTCAT	CCGCTATGCT	GGTACCAGA	TGCCAGATGG	CAGCATCAGA	GGGAGCCCTG
	CCAACGTGGA	ATTCACTCAG	CTGTGCATCG	ACCTGGGTGA	GAAAGCCAAAG	TACGGCCGCT	TCGATGTGGT
	CCCCCTGGTC	CTGCAGGCCA	ATGGCCGTGA	CCCTGAGCTC	TTCGAAATCC	CACCTGACCT	TGTGCTTGAG
	GTGGCCATGG	AACAATCCAA	ATACGAGTGG	TTTCGGGAAC	TGGAGCTAAA	GTGGTACGCC	CTGCCTGCAG
	TGGCCAACAT	GCTCCTTGAG	GTGGGCGGCC	TGGAGTTCCC	AGGGTGCCCC	TTCAATGGCT	GGTACATGGG
25	CACAGAGATC	GGAGTCCGGG	ACTTCTGTGA	CGTCCAGCGC	TACAACATCC	TGGAGGAAGT	GGGCAGGAGA
	ATGGGCCTGG	AAACGCACAA	GCTGGCCTCG	CTCTGGAAAG	ACCAGGCTGT	CGTTGAGATC	AACATTGCTG
	TGATCCATAG	TTTTCAGAAG	CAGAATGTGA	CCATCATGGA	CCACCCTCG	GCTGCAGAAT	CCTTCATGAA
	GTACATGCAG	AAATCAATACC	GGTCCCGTGG	GGGCTGCCCC	GCAGACTGGA	TTTGGCTGGT	CCCTCCCATG
	TCTGGGAGCA	TCAACCCCGT	GTTTACCAG	GAGATGCTGA	ACTACGTCCT	GTCCCTTTTC	TACTACTATC
30	AGGTAGAGGC	CTGCAAAAACC	CATGTCTGGC	AGGACGAGAA	GCGGAGACCC	AAGAGAAGAG	AGATTCCATT
	GAAAGTCTTG	GTCAAAGCTG	TGCTCTTTGC	CTGTATGCTG	ATGCGCAAGA	CAATGGCGTC	CCGAGTCAGA
	GTCACCATCC	TCTTTCGAC	AGAGACAGGA	AAATCAGAGG	CGCTGGCCTG	GGACCTGGGG	GCCTTATTCA
	GCTGTGCTTG	CAACCCCAAG	GTTGTCTGCA	TGGATAAGTA	CAGGCTGAGC	TGCCTGGAGG	AGGAACGGCT
	GCTGTGGTTG	GTAGCAGTA	CGTTTGCCAA	TGGAGACTGC	CCTGGCAATG	GAGAGAAACT	GAAGAAATCG
35	CTCTTCATGC	TGAAAGAGCT	CAACAACAAA	TTCAGGTACG	CTGTGTTTGG	CCTCGGCTCC	AGCATGTACC
	CTCGGTTCTG	CGCCTTGCT	CATGACATTG	ATCAGAAGCT	GTCCACCTG	GGGGCCTCTC	AGCTACCCCC
	GATGGGAGAA	GGGATGAGC	TCAGTGGGCA	GGAGGACGCC	TTCCGCAGCT	GGGCCGTGCA	AACCTTCAAG
	GCAGCCTGTG	AGACGTTTGA	TGTCCGAGGC	AAACAGCACA	TTCAGATCCC	CAAGCTCTAC	ACCTCCAATG
	TGACCTGGGA	CCCCACACC	TACAGGCTCG	TGCAGGACTC	ACAGCCTTGG	GACCTCAGCA	AAGCCCTCAG
40	CAGCATGCAT	GCAAGAAGC	TGTCTACCAT	GAGGCTCAAA	TCTCGGCAG	ATCTACAAAG	TCCGACATCC
	AGCCGTGCCA	CCATCTGGT	GGAACCTTCC	TGTGAGGATG	GCCAAAGCCT	GAACTACCTG	CCGGGGGAGC
	ACCTTGGGGT	TTGCCCAGGC	AACCAGCCGG	CCCTGGTCCA	AGGCATCCTG	GAGCGAGTGG	TGGATGGCCC
	CACACCCAC	CAGACAGTGC	GCCTGGAGGA	CCTGGATGAG	AGTGGCAGCT	ACTGGGTGAG	TGACAAGAGG
	CTGCCCCCCT	GCTCACTCAG	CCAGGCCCTC	ACCTACTCCC	CGGACATCAC	CACACCCCCA	ACCCAGCTGC
45	TGCTCCAAAA	GCTCGCCAG	GTGGCCACAG	AAGAGCCTGA	GAGACAGAGG	CTGGAGGCC	TGTGCCAGCC
	CTCAGAGTAC	AGCAAGTGGA	AGTTACACAA	CAGCCCCACA	TTCCTGGAGG	TGCTAGAGGA	GTTCCCGTCC
	CTGCGGGTGT	CTGCTGGCTT	CCTGCTTTCC	CAGCTCCCCA	TTCGAAGCC	CAGGTTCTAC	TCCATGAGCT
	CCTCCCGGGA	TCACACGCC	ACGGAGATCC	ACCTGACTGT	GGCCTGTGGT	ACCTACCACA	CCGGAGATGG
	CCAGGGTCCC	CTGCACCAAG	GTGTCTGCAG	CACATGGCTC	AACAGCCTGA	AGCCCCAAGA	CCAGTGCCCC
50	TGCTTTGTGC	GGAATGCCAG	CGCCTTCCAC	CTCCCCGAGG	ATCCCTCCCA	TCCTTGCAAT	CTCATCGGGC
	CTGGCACAGG	CATGCTGCC	TTCCGCAGTT	TCTGGCAGCA	ACGGCTCCAT	GACTCCAGC	ACAAGGGAGT
	GCGGGGAGGC	CGCATGACCT	TGGTGTTTGG	GTGCCGCCGC	CCAGATGAGG	ACCACATCTA	CCAGGAGGAG
	ATGCTGGGAA	TGGCCAGAA	GGGGGTGCTG	CATGCGGTGC			

[illegible]

1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	16
17	17	17
18	18	18
19	19	19
20	20	20
21	21	21
22	22	22
23	23	23
24	24	24
25	25	25
26	26	26
27	27	27
28	28	28
29	29	29
30	30	30
31	31	31
32	32	32
33	33	33
34	34	34
35	35	35
36	36	36
37	37	37
38	38	38
39	39	39
40	40	40
41	41	41
42	42	42
43	43	43
44	44	44
45	45	45
46	46	46
47	47	47
48	48	48
49	49	49
50	50	50
51	51	51
52	52	52
53	53	53
54	54	54
55	55	55
56	56	56
57	57	57
58	58	58
59	59	59
60	60	60
61	61	61
62	62	62
63	63	63
64	64	64
65	65	65
66	66	66
67	67	67
68	68	68
69	69	69
70	70	70
71	71	71
72	72	72
73	73	73
74	74	74
75	75	75
76	76	76
77	77	77
78	78	78
79	79	79
80	80	80
81	81	81
82	82	82
83	83	83
84	84	84
85	85	85
86	86	86
87	87	87
88	88	88
89	89	89
90	90	90
91	91	91
92	92	92
93	93	93
94	94	94
95	95	95
96	96	96
97	97	97
98	98	98
99	99	99
100	100	100

CCTGTGAATC CTAGCACTTT GAGAGGCTGA AGTGGGCAGA TCACTTGAGC TTCAGAGTTC GAGACCAGCA
 TGGACAACAT GGTC AAACCC AGTCTCTACC AAAACACAA AAATATTAGC TGGGTGTGGT GGTGCATGCC
 TGATAGTCCG GCTACTCAGG AGGCTGAGGT GGGAGGATCG CTTGAGCCTG GGAGGCAGAA GTTGCAATGA
 GCAGAGATCG TGCC ACTCCG CTCCAGTCTT GGTGACAGAA TGAGACTCCA TCTCAAAAAT AAATAAATAA
 5 ATAAATAAAA TAAATGAAAT GAAATTATAA GAAATTACCA CTTTTTCATG TAAGAAAGTGA TCATTTCCAT
 TATAAGGGAA GGAATTTAAT CCTACCTGCC ATTCCACCAA AGCTTACCTA GTGCTAAAGG ATGAGGTGTT
 AGTAAGACCA ACACTCAGA GGCCTCTCTG TGCCAATAGC CTTCTTCCTT TCCCTTCCA AAAACCTCAA
 GTGACTAGTT CAGAGGCCTG TCTGGAATAA TGGCATCATC TAATATCACT GGCCTTCTGG AACCTGGGCA
 TTTTCCAGTG TGTTCCATAC TGTCATATTT CCCCCAGCTT CCTGGACTCC TGTCACAAGC TGGAAAAGTG
 10 AGAGGATGGA CAGGATTAAT CCAGAGAGCT CCCTGCTGAG GAAAAAATCT CCCAGATGCT GAAAGTGAGG
 CCATGTGGCT TGCCCAAATA AAACCTGGCT CCGTGGTGCC TCTGTCTTAG CAGCCACCTT GCTGATGAAC
 TGCCACCTTG GACTTGGGAC CAGAAAGAGG TGGGTGGGT GAAGAGGCAC CACACAGAGT GATGTAACAG
 CAAGATCAGG TCACCCACAG GCCCTGGCAG TCACAGTCAT AAATTAGCTA ACTGTACACA AGCTGGGGAC
 ACTCCCTTTG GAAACCAAAA AAAAAAAAAA AAAAAAGAGA CTTTATGCA AAAACAACCTC TCTGGATGGC
 15 ATGGGGTGAG TATAAATACT TCTTGGCTGC CAGTGTGTTT ATAACCTTGT AGCGAGTCGA AAACAGAGGC
 TCCGGCCGCA GAGAACTCAG CCTCATCTCT GCTTAAAAAT CTCTCGGCCA CTTTGATGA GGGGACTGGG
 CAGTTCTAG CAGTCCGAA GTTCTCAAG CACAGGTCTC TTCCTGGTTT GACTGTCTT ACCCCGGGGA
 GGCAGTGCAG CCAGTGCAG GGTGAGTTGC C-3' (FRAG. NO:) (SEQ. ID NO: 2506)
 5'-CTGCTTTAAA ATCTCTCGGC CACCTTTGAT GAGGGGAGTG GGCAGTCTA GACAGTCCCG AAGTTCTCAA
 20 GGCACAGGTC TCTTCTGGT TGTACTGTCC TTACCCCGGG GAGGCAGTGC AGCCAGCTGC AAGCCCCACA
 GTGAAGAACA TCTCAGTCA AATCCAGATA AGTGACATAA GTGACCTGCT TTGTAAAGCC ATAGAGATGG
 CCTGTCTTTG GAAATTTCTG TTCAAGACCA AATTCCACCA GTATGCAATG AATGGGGAAA AAGACATCAA
 CAACAATGTG GAGAAAGCCC CCTGTGCCAC CTCCAGTCCA GTGACACAGG ATGACCTTCA GTATCACAAC
 CTCAGCAAGC AGCA GAATGA GTCCCCGCGAG CCCCTCGTGG AGACGGGAAA GAAGTCTCCA GAATCTCTGG
 25 TCAAGCTGGA TGCAACCCCA TTGTCTCTCC CACGGCATGT GAGGATCAAA AACTGGGGCA GCGGGATGAC
 TTTCCAAGAC ACATTTACC ATAAGGCCAA AGGGATTTA ACTTGCAGGT CCAAATCTTG CCTGGGGTCC
 ATTATGACTC CCAAAAGTTT GACCAGAGGA CCCAGGGACA AGCTACCCC TCCAGATGAG CTTCTACCTC
 AAGCTATCGA ATTTGTCAAC CAATATTACG GCTCCTTCAA AGAGGCAAAA ATAGAGGAAC ATCTGGCCAG
 GGTGGAAGCG GTAACAAAGG AGATAGAAAC AACAGGAACC TACCAACTGA CGGGAGATGA GCTCATCTTC
 30 GCCACCAAGC AGGCTGGCG CAATGCCCA CGCTGCATTG GGAGGATCCA GTGGTCCAAC CTGCAGGTCT
 TCGATGCCCG CAGCTGTTC ACTGCCCGGG AAATGTTTGA ACACATCTGC AGACACGTGC GTTACTCCAC
 CAACAATGGC AACATCAGGT CGGCCATCAC CGTGTCCCC CAGCGGAGTG ATGCAAGCA CGACTTCCGG
 GTGTGGAATG CTCAGTCTAT CCGCTATGCT GGCTACCAGA TGCCAGATGG CAGCATCAGA GGGGACCTTG
 CCCAGTGGTA ATTCCTCAG CTGTGCATCG ACCTGGGCTG GAAGCCCAAG TACGGCCGCT TCGATGTGGT
 35 CCCCCTGGT CTGCAGGCA ATGGCCGTGA CCTGAGTCT TCGAAATCC CACCTGACCT TGTGTTGAG
 GTGGCCATGG AACATCCCAA ATACAGGTGG TTTCGGGAAC TGGAGCTAAA GTGGTACGCC CTGCCTGCAG
 TGGCCAACAT GCTCTTGAG GTGGGCGGCC TGGAGTCCC AGGGTGCCCC TTCAATGGCT GGTACATGGG
 CACAGAGATC GGAATCCGGG ACTTCTGTGA CGTCCAGCGC TACAACATCC TGGAGGAAGT GGGCAGGAGA
 ATGGGCCTGG AAACGCACAA GCTGGCCTCG CTCTGGAAG ACCAGGCTGT CGTTGAGATC AACATTGCTG
 40 TGATCCATAG TTTTCAGAA CAGAAATGTA CCATCATGGA CCACCACTCG GCTGCAGAAT CCTTCATGAA
 GTACATGCAG AATGAATACC GGTCCCGTGG GGGGTGCCCC GCAGACTGGA TTTGGCTGGT CCCTCCCATG
 TCTGGGAGCA TCACCCCGT GTTTCACCAG GAGATGTGTA ACTACGTCCT GTCCCCTTT TACTACTATC
 AGGTAGAGGC GTCGAAAACC CATGTCTGGC AGGACGAGAA GCGGAGACCC AAGAGAAGAG AGATTCCATT
 GAAAGTCTTG GTCAAAGCTG TGCTCTTTGC CTGTATGCTG ATGCGCAAGA CAATGGCGTC CCGAGTCAGA
 45 GTCACCATCC TCTTTCGAC AGAGACAGGA AAATCAGAGG CGCTGGCCTG GGACCTGGGG GCCTTATTCA
 GCTGTGCCTT CAACCCCAAG GTTGTCTGCA TGGATAAGTA CAGGCTGAGC TGCTGGAGG AGGAACGGCT
 GCTGTTGGTG GTGACCAAGTA CGTTTGGCAA TGGAGACTGC CCTGGCAATG GAGAGAAACT GAAGAAATCG
 CTCTTCATGC TGAAAGAGCT CAACAACAAA TTCAGGTACG CTGTGTTTGG CCTCGGCTCC AGCATGTACC
 CTCGGTTCTG CGCTTTTGCT CATGACATTG ATCAGAAGCT GTCCACCTG GGGGCTCTC AGCTACCCCC
 50 GATGGGAGAA GGGGATGAGC TCAGTGGGCA GGAGGACGCC TTCCGCAGCT GGGCCGTGCA AACCTCAAG
 GCAGCCTGTG AGACGTTTGA TGTCCGAGGC AAACAGCACA TTCAGATCCC CAAGCTCTAC ACCTCCAATG
 TGACCTGGGA CCCCACACC TACAGGCTCG TGCAGGACTC ACAGCCTTTG GACCTCAGCA AAGCCCTCAG
 CAGCATGCAT GCCAAGAACG TGTTCACCAT GAGGCTCAAA TCTCGGCAGA ATCTACAAAG TCCGACATCC
 AGCCGTGCCA CCACTCTGGT GGAATCTCC TGTGAGGATG GCCAAGGCCT GAACTACCTG CCGGGGGAGC
 55 ACCTTGGGGT TTGCCAGGC AACAGCCGG CCCTGGTCCA AGGCATCCTG GAGCGAGTGG TGGATGGCCC
 CACACCCAC CAGAAGTGC GCCTGGAGGA CCTGGATGAG AGTGGCAGCT ACTGGGTGAG TGACAAGAGG
 TGCCCCCTT GCTCACTCAG CCAGGCCCTC ACCTACTCCC CCGACATCAC CACACCCCA ACCCAGCTGC
 CTGCTCAAAA GCTC GCCAG GTGGCCACAG AAGAGCCTGA CAGCCCCACA TTCTGGAGG TGCTAGAGGA GTTCCGTTCC
 CTCAGAGTAC AGCAAGTGA AGTTACCAA CAGCCCCA TTCTGAAGCC CAGGTTCTAC TCCATCAGCT
 60 CTGCGGGTGT CTGCTGGCTT CCTGCTTTCC CAGCTCCCCA TTCTGAAGCC CAGGTTCTAC TCCATCAGCT
 CCTCCCGGGA TCACACGCCC ACGGAGATCC ACCTGACTGT GGCCGTGGTC ACCTACCACA CCGGAGATGG
 CCAGGGTCCC CTGACCCAG GTGTCTGCAG CACATGGCTC AACAGCCTGA AGCCCAAGA CCCAGTGCCC

[illegible]

- GACGAGGTGC AGAACGCCCA GCAGCGCGGG GTGTTTGGCC GAGTCCTCAC CGCCTTCTCC CGGGAACCTG
 ACAACCCCAA GACCTACGTG CAGGACATCC TGAGGACGGA GCTGGCTGCG GAGGTGCACC GCGTGCTGTG
 CCTCGAGCGG GGCACATGT TTGTCTGCGG CGATGTTACC ATGGCAACCA ACGTCCTGCA GACCGTGCAG
 CGCATCTGG CGACGGAGGG CGACATGGAG CTGGACGAGG CCGGCGACGT CATCGGCGTG CTGCGGGATC
 5 AGCAACGCTA CCAAGAAGAC ATTTTCGGGC TCACGCTGCG CACCCAGGAG GTGACAAGCC GCATACGCAC
 CCAGAGCTTT TCCITGCAGG AGCGTCAGTT GCGGGGCGCA GTGCCCTGGG CGTTCGACCC TCCCGGCTCA
 GACACCAACA GCCCCTGAGA GCCGCTGGC TTTCCTTCC AGTTCGGGA GAGCGGCTGC CCGACTCAGG
 TCCGCCCCGAC CAGGATCAGC CCCGCTCCTC CCCTCTGAG GTGGTGCCTT CTCACATCTG TCCAGAGGCT
 GCAAGGATTC AGCATTATTC CTCCAGGAAG GAGCAAAACG CCTCTTTTCC CTCTCTAGGC CTGTTGCCTC
 10 GGGCCTGGGT CCGCCTTAAT CTGGAAGGCC CCTCCAGCA GCGGTACCCC AGGGCCTACT GCCACCCGCT
 TCCTGTTTCT TAGTCCGAAT GTTAGATTC TCTGCTCTC CTCAGGAGTA TCTTACCTGT AAAGTCTAAT
 CTCTAAATCA AGTATTATTT ATTGAAGATT TACCATAAGG GACTGTGCCA GATGTTAGGA GAACTACTAA
 AGTGCCTACC CCAGCTC-3' (FRAG. NO:) (SEQ. ID NO: 2508)
 5'-CCCCGGGG-3' (FRAG. NO:1898) (SEQ. ID NO: 1911)
 15 5'-GGGGCCGCTGGG-3' (FRAG. NO:1899) (SEQ. ID NO:1912)
 5'-GGGGGTGTGG-3' (FRAG. NO:1900) (SEQ. ID NO: 1913)
 5'-CTGCCTCCCCGGGT-3' (FRAG. NO:1442)(SEQ. ID NO:1451)
 5'-TTCTGCTGCTTGC-3' (FRAG. NO:1443)(SEQ. ID NO:1452)
 5'-CTTCTTTCCCGTC-3' (FRAG. NO:1444)(SEQ. ID NO:1453)
 20 5'-CTTCTTTCCCGTC-3' (FRAG. NO:1445)(SEQ. ID NO:1454)
 5'-TTTTTGCTCTTT-3' (FRAG. NO:1446)(SEQ. ID NO:1455)
 5'-GGTTCCTGTTGTT-3' (FRAG. NO:1447)(SEQ. ID NO:1456)
 5'-GGCCTGCTTGGTGGCG-3' (FRAG. NO:1448)(SEQ. ID NO:1457)
 5'-GCTTGTGCGTTTC-3' (FRAG. NO:1449)(SEQ. ID NO:1458)
 25 5'-TCTCTCTTCTCTTGGTCTCCGCTTCTCGTCCGCC-3' (FRAG. NO:1450)(SEQ. ID NO:1459)
 5'-TTTTCTGTCTCTTCCG-3' (FRAG. NO:1451)(SEQ. ID NO:1460)
 5'-GCCGTCTCTCTCT-3' (FRAG. NO:1452)(SEQ. ID NO:1461)
 5'-GGCGTCCCTCTGCTC-3' (FRAG. NO:1453)(SEQ. ID NO:1462)
 5'-TGTGCTGTTTGGC-3' (FRAG. NO:1454)(SEQ. ID NO:1463)
 30 5'-GTGGTGGCGGTCCC-3' (FRAG. NO:1455)(SEQ. ID NO:1464)
 5'-GGTGTCTCCCCGGC-3' (FRAG. NO:1456)(SEQ. ID NO:1465)
 5'-GGGCCGGCTGGTTGCCTGGGC-3' (FRAG. NO:1457)(SEQ. ID NO:1466)
 5'-CTGTCTGGTGGGGTGTGGGCC-3' (FRAG. NO:1458)(SEQ. ID NO:1467)
 5'-GCTGGGTGGGGGTGTGGTG-3' (FRAG. NO:1459)(SEQ. ID NO:1468)
 35 5'-GGCTCTCTCTGTGGCC-3' (FRAG. NO:1460)(SEQ. ID NO:1469)
 5'-TGTGGGGCTGTG-3' (FRAG. NO:1461)(SEQ. ID NO:1470)
 5'-TCTCTGTGGGCGTGTG-3' (FRAG. NO:1462)(SEQ. ID NO:1471)
 5'-CTGGGTCTGGGGCTTC-3' (FRAG. NO:1463)(SEQ. ID NO:1472)
 5'-CTCCCTGTGCTGGG-3' (FRAG. NO:1464)(SEQ. ID NO:1473)
 40 5'-TGCGGCTCCCCG-3' (FRAG. NO:1465)(SEQ. ID NO:1474)
 5'-CCCCCTCTGGGC-3' (FRAG. NO:1466)(SEQ. ID NO:1475)
 5'-GGTGGCCTGGCTCCTGTGG-3' (FRAG. NO:1467)(SEQ. ID NO:1476)
 5'-GCGCTCTGGCTC-3' (FRAG. NO:1468)(SEQ. ID NO:1477)
 5'-CCCTGTCTCTTCTGCTCGT-3' (FRAG. NO:1469)(SEQ. ID NO:1478)
 45 5'-GGCTGTGGGCTG-3' (FRAG. NO:1470)(SEQ. ID NO:1479)
 5'-CTGCCCCBGTGTTTGTGCTCCTCCTGCGGTGGGGGGBGCBTGG-3' (FRAG. NO:1901) (SEQ. ID NO: 1914)

NF-kB Nucleic Acids and Antisense Oligonucleotide Fragments

- 5'-CGGCCCTTCT CACTGGAGGC ACCGGGCAGT CCTCCATGGG AGGGTTGGGC TTGGCCGGGG CTGCCCCGGT
 CCTCTCTTG GCTGCTCCCT CGTTGTCCTT GGGCCCCGC TCCCGCTGCT CGGCCTCCGT GTTCTTTGGC
 50 CTCTTGCTCC GCCGCTGTC TTGTCCCGTC CCTCCTCGC TTGCGTTTCC CTCTCCTTG TCTTCCAGGC
 CTCTCTCCGC TTCCGCTGCT GGGGCCCGCG CCGGGGGGGC GCTCGGCTCC GCGGCTTCT CCCC GGCTGG
 GGGGTCTTG TCTCGGGGC CTGCGGCTCG CCGGCTCGGG GCTGCGTGCG CCGCGCGCG CGTCCGCGGT
 GGGTGGCGCT GTCGCGCGT GGTGTGTCTC CGTTCTCGTC CTGCGCCGTC CTGGTCTGCC CGTGGGGTCC
 TGGGCGTGGT GGGGGGCGTC TGGTGCCTCG TCTGCCCGT GGGGCTTCGG GCTCGGGGCT GTTCGTCCCC
 55 CCGCCGCTC TGTCGCTCC GGGGCTCCTC GTTTTCGCTG CTTCGGGTGT CCTTCTCGG GTGTGGCCCC
 GGGTCCCGGC CCTGCTGGC TGGGCGGGGT GCGTCCCTG GGCTTCTGG CCGTCTGGT GTCTGTGGT
 GCTTGTCTCG GGTCTCTGGC CTCTGTGCTG GCGCTTCTC TGCCTCTGC TCCGCCCTCC TGGTGGCTCG
 GCTGGGGGTG CCGTGGGGG GGTGGGTGTG GGGTGTTC GGGTCTCTC CCTTCCC-3' (FRAG. NO:1902) (SEQ.
 ID NO:1915)
 60 5'-GGGCGGGGTGCG-3' (FRAG. NO:1903) (SEQ. ID NO:1916)
 5'-GCGCGGTCC-3' (FRAG. NO:1904) (SEQ. ID NO:1917)



5'-GGGCGTGGTGGG-3' (FRAG. NO:1905)(SEQ. ID NO:1918)
5'-GTTGGGCTTGGCCGGGG-3' (FRAG. NO:1471)(SEQ. ID NO:1480)
5'-CTGCCCGGTGCCTCC-3' (FRAG. NO:1472)(SEQ. ID NO:1481)
5'-TCTTGGTGCTCCCTCGT-3' (FRAG. NO:1473)(SEQ. ID NO:1482)
5'-TGTCCTTGGGCCCC-3' (FRAG. NO:1474)(SEQ. ID NO:1483)
5'-GCTCCCGCTGCTC3GCCTCCGT-3' (FRAG. NO:1475)(SEQ. ID NO:1484)
5'-GTTCTTTTGGCTTCTGCTCC-3' (FRAG. NO:1476)(SEQ. ID NO:1485)
5'-GCCTGCTGTCTTGTC-3' (FRAG. NO:1477)(SEQ. ID NO:1486)
5'-CGTCCCTCCTCGCTTGCCTTC-3' (FRAG. NO:1478)(SEQ. ID NO:1487)
5'-CCTCTTCTTGTCTTCCA-3' (FRAG. NO:1479)(SEQ. ID NO:1488)
5'-GGCCTTCCTCCGCTCCGCTGC-3' (FRAG. NO:1480)(SEQ. ID NO:1489)
5'-TGGGGCCCGCGCCGG-3' (FRAG. NO:1481)(SEQ. ID NO:1490)
5'-GGGGGCGCTCGGCTCCGCGGCTTCTCCCCGG-3' (FRAG. NO:1482)(SEQ. ID NO:1491)
5'-CTCGGGGCTCCTGG-3' (FRAG. NO:1483)(SEQ. ID NO:1492)
5'-TCTCCGGGGCTGCGCTCGC-3' (FRAG. NO:1484)(SEQ. ID NO:1493)
5'-GGGCTCGGGGCTGCGTGCGCC-3' (FRAG. NO:1485)(SEQ. ID NO:1494)
5'-GCGCGCGGCTCCGCGGTG-3' (FRAG. NO:1486)(SEQ. ID NO:1495)
5'-GGTGGCGCTGTCCCGCC-3' (FRAG. NO:1487)(SEQ. ID NO:1496)
5'-GTGGTGTGTCTCCCTTCTCGTCTGCGCCGTC-3' (FRAG. NO:1488)(SEQ. ID NO:1497)
5'-CTGGTCTGCCCGTGG-3' (FRAG. NO:1489)(SEQ. ID NO:1498)
5'-GGTCTTGGGCGTGGTGG-3' (FRAG. NO:1490)(SEQ. ID NO:1499)
5'-GGGGCGCTGTGGTGC-3' (FRAG. NO:1491)(SEQ. ID NO:1500)
5'-CTCGTCTGCCCCGTG-3' (FRAG. NO:1492)(SEQ. ID NO:1501)
5'-GGGCTTCGGGCTC3G-3' (FRAG. NO:1493)(SEQ. ID NO:1502)
5'-GGTGTTCGTCCCTCGTCCGCTCTGTGGCCTCC-3' (FRAG. NO:1494)(SEQ. ID NO:1503)
5'-GGGGCTCCTCGTTTC-3' (FRAG. NO:1495)(SEQ. ID NO:1504)
5'-GCTGTTCGGGTGCTCTTCTC-3' (FRAG. NO:1496)(SEQ. ID NO:1505)
5'-GGCGTGTGGCCCC3G-3' (FRAG. NO:1497)(SEQ. ID NO:1506)
5'-GTCCCGCCCTGCTGGGCTGGGCGGGGTC-3' (FRAG. NO:1498)(SEQ. ID NO:1507)
5'-GCTGCCCTGGGCTTCTGGCCCGTCT-3' (FRAG. NO:1499)(SEQ. ID NO:1508)
5'-GGTTGTCTGTGG-3' (FRAG. NO:1500)(SEQ. ID NO:1509)
5'-GCTGTCTCGGGTCTTGG-3' (FRAG. NO:1501)(SEQ. ID NO:1510)
5'-CCTCTGTGCTGGG-3' (FRAG. NO:1502)(SEQ. ID NO:1511)
5'-GCTTCTTGCTCTCTGCTCC-3' (FRAG. NO:1503)(SEQ. ID NO:1512)
5'-GCCCTCTGGTGGCTC-3' (FRAG. NO:1504)(SEQ. ID NO:1513)
5'-GGCTGGGGGTGCCGTGCG-3' (FRAG. NO:1505)(SEQ. ID NO:1514)
5'-GGGGTGGGTGTGG3GTGT-3' (FRAG. NO:1506)(SEQ. ID NO:1515)
5'-TTCGGGGTCTCCCTTCC-3' (FRAG. NO:1507)(SEQ. ID NO:1516)
5'-CGGCCCTTCTACCTGGAGGCACCGGGCAGTCTCCATGGGAGG-3' (FRAG. NO:1906)(SEQ. ID NO:1919)

40 Human Major Basic Protein Nucleic Acids and Antisense Oligonucleotide Fragments

5'-GTT TCA TCT TGG CTT TAT CCTCT CCC CTT GTT CCT CCC CTCT CCT GCT CTG GRG TCT CCT C TTC CCT
CCC TCC CCT GCC G'G TTG TCT GTG GGT GTC GTT TCG CTC TTG TTG CCC TGG GCC CTT CCC TGC TGG GGG
GGA GTT TCA TCT T3G GTT TCB TCT TGG CTT TBT CCTCT CCC CTT GTT CCT CCC CTCT CCT GCT CTG GRG
TCT CCT C TTC CCT (CCC TCC CCT GCC GTG TTG TCT GTG GGT GTC GTT TCG CTC TTG TTG CCC TGG GCC CTT
CCC TGC TGG GGG G3B GTT TCB TCT TGG-3' (FRAG. ID:1907) (SEQ. ID NO:1920)
5'-GGG GGA GTT-3' (FRAG. ID:1908) (SEQ. ID NO:1921)
5'-G CCC TGG GCC C-3' (FRAG. ID:1909) (SEQ. ID NO:1922)
5'-GTT TCA TCT TGG CTT TAT CC-3' (FRAG. NO:1508) (SEQ. ID NO:1517)
5'-TCT CCC CTT GTT CCT CCC C-3' (FRAG. NO:1509)(SEQ. ID NO:1518)
5'-TCT CCT GCT CTG 3RG TCT CCT C-3' (FRAG. NO:1510)(SEQ. ID NO:1519)
5'-TTC CCT CCC TCC CCT GCC-3' (FRAG. NO:1511)(SEQ. ID NO:1520)
5'-GTG TTG TCT GTG 3GT GTC C-3' (FRAG. NO:1512)(SEQ. ID NO:1521)
5'-GTT TCG CTC TTG TTG CCC-3' (FRAG. NO:1513)(SEQ. ID NO:1522)
5'-TGG GCC CTT CCC TGC TGG-3' (FRAG. NO:1514)(SEQ. ID NO:1523)
5'-GGG GGA GTT TCA TCT TGG-3' (FRAG. NO:1515)(SEQ. ID NO:1524)
5'-GTT TCA TCT TGG CTT TAT CCTCT CCC CTT GTT CCT CCC CTCT CCT GCT CTG GRG TCT CCT C TTC CCT
CCC TCC CCT GCC GTG TTG TCT GTG GGT GTC GTT TCG CTC TTG TTG CCC TGG GCC CTT CCC TGC TGG GGG
GGA GTT TCA TCT TCG-3' (FRAG. ID:1910) (SEQ. ID NO:1923)
5'-GTT TCB TCT TGG CTT TBT CCTCT CCC CTT GTT CCT CCC CTCT CCT GCT CTG GRG TCT CCT C TTC CCT CCC
TCC CCT GCC GTG TTG TCT GTG GGT GTC GTT TCG CTC TTG TTG CCC TGG GCC CTT CCC TGC TGG GGG GGB
GTT TCB TCT TGG-3' (FRAG. ID:1911) (SEQ. ID NO:1924)

Human Eosinophi| Major Basic Protein Nucleic Acids and Antisense Oligonucleotide Fragments

- 5'-GGG GGB GTT TCB TCT TGG CTT T-3' (FRAG. NO:1516)(SEQ. ID NO:1525)
 5'-GGG GGB GTT TCB TCT TGG CTT-3' (FRAG. NO:1517)(SEQ. ID NO: 1526)
 5'-GGG GGB GTT TCB TCT TGG CT-3' (FRAG. NO:1518)(SEQ. ID NO:1527)
 5 5'-GGG GGB GTT TCB TCT TGG C-3' (FRAG. NO:1519)(SEQ. ID NO: 1528)
 5'-GGG GGB GTT TCB TCT TGG-3' (FRAG. NO:1520)(SEQ. ID NO: 1529)
 5'-GGG GGB GTT TCB TCT TG-3' (FRAG. NO:1521)(SEQ. ID NO: 1530)
 5'-GGG GGB GTT TCB TCT T-3' (FRAG. NO:1522)(SEQ. ID NO: 1531)
 5'-GGG GGB GTT TCB TCT-3' (FRAG. NO:1523)(SEQ. ID NO: 1532)
 10 5'-GGG GGB GTT TCB TC-3' (FRAG. NO:1524)(SEQ. ID NO: 1533)
 5'-GGG GGB GTT TCB T-3' (FRAG. NO:1525)(SEQ. ID NO: 1534)
 5'-GGG GGB GTT TCB TCT TGG CTT T-3' (FRAG. NO:1527)(SEQ. ID NO: 1536)
 5'-GG GGB GTT TCB TCT TGG CTT-3' (FRAG. NO:1528)(SEQ. ID NO: 1537)
 15 5'-GG GGB GTT TCB TCT TGG CT-3' (FRAG. NO:1529)(SEQ. ID NO: 1538)
 5'-GG GGB GTT TCB TCT TGG C-3' (FRAG. NO:1530)(SEQ. ID NO: 1539)
 5'-GG GGB GTT TCB TCT TGG-3' (FRAG. NO:1531)(SEQ. ID NO: 1540)
 5'-GG GGB GTT TCB TCT TG-3' (FRAG. NO:1532)(SEQ. ID NO: 1541)
 5'-GG GGB GTT TCB TCT T-3' (FRAG. NO:1533)(SEQ. ID NO: 1542)
 20 5'-GG GGB GTT TCB TCT-3' (FRAG. NO:1534)(SEQ. ID NO: 1543)
 5'-GG GGB GTT TCB TCT C-3' (FRAG. NO:1535)(SEQ. ID NO: 1544)
 5'-GG GGB GTT TCB TCT-3' (FRAG. NO:1536)(SEQ. ID NO: 1545)
 5'-G GGB GTT TCB TCT TGG CTT T-3' (FRAG. NO:1537)(SEQ. ID NO: 1546)
 5'-G GGB GTT TCB TCT TGG CTT-3' (FRAG. NO:1538)(SEQ. ID NO: 1547)
 25 5'-G GGB GTT TCB TCT TGG CT-3' (FRAG. NO:1539)(SEQ. ID NO: 1548)
 5'-G GGB GTT TCB TCT TGG C-3' (FRAG. NO:1540)(SEQ. ID NO: 1549)
 5'-G GGB GTT TCB TCT TGG-3' (FRAG. NO:1541)(SEQ. ID NO: 1550)
 5'-G GGB GTT TCB TCT TG-3' (FRAG. NO:1542)(SEQ. ID NO: 1551)
 5'-G GGB GTT TCB TCT T-3' (FRAG. NO:1543)(SEQ. ID NO: 1552)
 30 5'-G GGB GTT TCB TCT-3' (FRAG. NO:1544)(SEQ. ID NO: 1553)
 5'-G GGB GTT TCB TC-3' (FRAG. NO:1545)(SEQ. ID NO: 1554)
 5'-GGB GTT TCB TCT TGG CTT T-3' (FRAG. NO:1546)(SEQ. ID NO: 1555)
 5'-GGB GTT TCB TCT TGG CTT-3' (FRAG. NO:1547)(SEQ. ID NO: 1556)
 5'-GGB GTT TCB TCT TGG CT-3' (FRAG. NO:1548)(SEQ. ID NO: 1557)
 35 5'-GGB GTT TCB TCT TGG C-3' (FRAG. NO:1549)(SEQ. ID NO: 1558)
 5'-GGB GTT TCB TCT TGG-3' (FRAG. NO:1550)(SEQ. ID NO: 1559)
 5'-GGB GTT TCB TCT TG-3' (FRAG. NO:1551)(SEQ. ID NO: 1560)
 5'-GGB GTT TCB TCT T-3' (FRAG. NO:1552)(SEQ. ID NO: 1561)
 5'-GGB GTT TCB TCT-3' (FRAG. NO:1553)(SEQ. ID NO: 1562)
 40 5'-GB GTT TCB TCT TGG CTT T-3' (FRAG. NO:1554)(SEQ. ID NO: 1563)
 5'-GB GTT TCB TCT TGG CTT-3' (FRAG. NO:1555)(SEQ. ID NO: 1564)
 5'-GB GTT TCB TCT TGG CT-3' (FRAG. NO:1556)(SEQ. ID NO: 1565)
 5'-GB GTT TCB TCT TGG C-3' (FRAG. NO:1557)(SEQ. ID NO: 1566)
 5'-GB GTT TCB TCT TGG-3' (FRAG. NO:1558)(SEQ. ID NO: 1567)
 45 5'-GB GTT TCB TCT TG-3' (FRAG. NO:1559)(SEQ. ID NO: 1568)
 5'-GB GTT TCB TCT T-3' (FRAG. NO:1560)(SEQ. ID NO: 1569)
 5'-B GTT TCB TCT TGG CTT T-3' (FRAG. NO:1561)(SEQ. ID NO: 1570)
 5'-B GTT TCB TCT TGG CTT-3' (FRAG. NO:1562)(SEQ. ID NO: 1571)
 5'-B GTT TCB TCT TGG CTT-3' (FRAG. NO:1563)(SEQ. ID NO: 1572)
 50 5'-B GTT TCB TCT TGG CT-3' (FRAG. NO:1564)(SEQ. ID NO: 1573)
 5'-B GTT TCB TCT TGG C-3' (FRAG. NO:1565)(SEQ. ID NO: 1574)
 5'-B GTT TCB TCT TGG-3' (FRAG. NO:1566)(SEQ. ID NO: 1575)
 5'-B GTT TCB TCT TG-3' (FRAG. NO:1567)(SEQ. ID NO: 1576)
 5'-GTT TCB TCT TGG CTT T-3' (FRAG. NO:1568)(SEQ. ID NO: 1577)
 55 5'-GTT TCB TCT TGG CTT-3' (FRAG. NO:1569)(SEQ. ID NO: 1578)
 5'-GTT TCB TCT TGG CT-3' (FRAG. NO:1570)(SEQ. ID NO: 1579)
 5'-GTT TCB TCT TGG C-3' (FRAG. NO:1571)(SEQ. ID NO: 1580)
 5'-GTT TCB TCT TGG-3' (FRAG. NO:1572)(SEQ. ID NO: 1581)
 5'-TT TCB TCT TGG CTT T-3' (FRAG. NO:1573)(SEQ. ID NO: 1582)
 60 5'-TT TCB TCT TGG CTT-3' (FRAG. NO:1574)(SEQ. ID NO: 1583)
 5'-TT TCB TCT TGG CT-3' (FRAG. NO:1575)(SEQ. ID NO: 1584)

[illegible]

- 5'-GB GTT TCB TCT 1-3' (FRAG. NO:1638)(SEQ. ID NO: 1647)
 5'-GGG GGB GTT TCE TCT-3' (FRAG. NO:1639)(SEQ. ID NO: 1648)
 5'-GG GGB GTT TCB TCT-3' (FRAG. NO:1640)(SEQ. ID NO: 1649)
 5'-G GGB GTT TCB TCT-3' (FRAG. NO:1641)(SEQ. ID NO: 1650)
 5 5'-GGB GTT TCB TCT 3' (FRAG. NO:1642)(SEQ. ID NO: 1651)
 5'-GGG GGB GTT TCE TC-3' (FRAG. NO:1643)(SEQ. ID NO: 1652)
 5'-GG GGB GTT TCB TC-3' (FRAG. NO:1644)(SEQ. ID NO: 1653)
 5'-G GGB GTT TCB TC-3' (FRAG. NO:1645)(SEQ. ID NO: 1654)
 5'-GGG GGB GTT TCB T-3' (FRAG. NO:1646)(SEQ. ID NO: 1655)
 10 5'-GG GGB GTT TCB T-3' (FRAG. NO:1647)(SEQ. ID NO: 1656)
 5'-GGG GGB GTT TCB-3' (FRAG. NO:1648)(SEQ. ID NO: 1657)
 5'-TCT CCC CTT GTT CCT CCC C-3' (FRAG. NO:1649)(SEQ. ID NO: 1658)
 5'-TCT CCT GCT CTG GTG TCT CCT C-3' (FRAG. NO:1650)(SEQ. ID NO: 1659)
 5'-TTC CCT CCC TCC CCT GCC-3' (FRAG. NO:1651)(SEQ. ID NO: 1660)
 15 5'-GTG TTG TCT GTG GGT GTC C-3' (FRAG. NO:1652)(SEQ. ID NO: 1661)
 5'-GTT TCG CTC TTG TTG CCC-3' (FRAG. NO:1653)(SEQ. ID NO: 1661)
 5'-TGG GCC CTT CCC TGC TGG-3' (FRAG. NO:1654)(SEQ. ID NO: 1663)
 5'-GGG GGB G-3' (FRAG. NO:1912)(SEQ. ID NO: 1925)
 5'-GTG GGT GTC C-3' (FRAG. NO:1913) (SEQ. ID NO: 1926)

20 BP-1 Nucleic Acids and Antisense Oligonucleotide Fragments

- 5'-CCGTGTGTC BGIGGTGCTG CCGTTTGBG GTBTGGCGCT CCBCCBBTTC CCTTTTCTCC TTGTTTTCCG
 TTTCTCTGC CGTCTGTGGT T-3' (FRAG. NO:1914) (SEQ. ID NO: 1927)
 5'-CCCGTTTGBGGTB1GGC-3'(FRAG. NO:1915) (SEQ. ID NO: 1928)
 5'-GCTCCBCCBBTTCCTTTTCTCC-3'(FRAG. NO:1916) (SEQ. ID NO: 1929)
 25 5'-TTGTTTTCCGTTTC TTTG-3'(FRAG. NO:1917) (SEQ. ID NO: 1930)
 5'-CCGTCTGTGGT-3'(FRAG. NO:1918) (SEQ. ID NO: 1931)
 5'-CCCGTTTGAGGTA1GGC-3'(FRAG. NO:1919) (SEQ. ID NO: 1932)
 5'-GCTCCBCCAATTCCCTTTTCTCC-3'(FRAG. NO:1920) (SEQ. ID NO: 1933)

C/EBPNucleic Acids and Antisense Oligonucleotide Antisense Oligonucleotide Fragments

- 30 5'-GGGCCCCGCCCCGCGCCTTTTCTBGCCCC GGCC-3' (FRAG. NO:1921) (SEQ. ID NO: 1934)
 5'-GGGCCCCGCCCCGCGCCTTTTCTBGCCCC GGC-3' (FRAG. NO:1922) (SEQ. ID NO: 1935)
 5'-GGGCCCCGCCCCGCGCCTTTTCTBGCCCCGG-3' (FRAG. NO:1923) (SEQ. ID NO: 1936)
 5'-GGGCCCCGCCCCGCGCCTTTTCTBGCCCCG-3' (FRAG. NO:1924) (SEQ. ID NO: 1937)
 5'-GGGCCCCGCCCCGCGCCTTTTCTBGCCCC-3' (FRAG. NO:1925) (SEQ. ID NO: 1938)
 35 5'-GGGCCCCGCCCCGCGCCTTTTCTBGCCCC-3' (FRAG. NO:1926) (SEQ. ID NO: 1939)
 5'-GGGCCCCGCCCCGCGCCTTTTCTBGCC-3' (FRAG. NO:1927) (SEQ. ID NO: 1940)
 5'-GGGCCCCGCCCCGCGCCTTTTCTBGC-3' (FRAG. NO:1928) (SEQ. ID NO: 1941)
 5'-GGGCCCCGCCCCGCGCCTTTTCTBG-3' (FRAG. NO:1929) (SEQ. ID NO: 1942)
 5'-GGGCCCCGCCCCGCGCCTTTTCTB-3' (FRAG. NO:1930) (SEQ. ID NO: 1943)
 40 5'-GGGCCCCGCCCCGCGCCTTTTCT-3' (FRAG. NO:1931) (SEQ. ID NO: 1942) 1944)
 5'-GGGCCCCGCCCCGCGCCTTTTCT-3' (FRAG. NO:1932) (SEQ. ID NO: 1945)
 5'-GGGCCCCGCCCCGCGCCTTTT-3' (FRAG. NO:1933) (SEQ. ID NO: 1946)
 5'-GGGCCCCGCCCCGCGCCTTT-3' (FRAG. NO:1934) (SEQ. ID NO: 1947) [1945]
 5'-GGGCCCCGCCCCGCGCCTT-3' (FRAG. NO:1935) (SEQ. ID NO: 1948)
 45 5'-GGGCCCCGCCCCGCGCCT-3' (FRAG. NO:1936) (SEQ. ID NO: 1949)
 5'-GGGCCCCGCCCCGCGCC-3' (FRAG. NO:1937) (SEQ. ID NO: 1950)
 5'-GGGCCCCGCCCCGCGC-3' (FRAG. NO:1938) (SEQ. ID NO: 1951)
 5'-GGGCCCCGCCCCGCG-3' (FRAG. NO:1939) (SEQ. ID NO: 1952)
 5'-GGGCCCCGCCCCGCG-3' (FRAG. NO:1940) (SEQ. ID NO: 1953)
 50 5'-GGGCCCCGCCCCGCG-3' (FRAG. NO:1941) (SEQ. ID NO: 1954)
 5'-GGGCCCCGCCCCG-3' (FRAG. NO:1942) (SEQ. ID NO: 1955)
 5'-GGGCCCCGCCCC-3' (FRAG. NO:1943) (SEQ. ID NO: 1956)
 5'-GGGCCCCGCCCC-3' (FRAG. NO:1944) (SEQ. ID NO: 1957)
 5'-GGGCCCCGCCCCGCGCCTTTTCTBGCCCCGGC-3' (FRAG. NO:1945) (SEQ. ID NO: 1958)
 55 5'-GCCCBGCCCCGCGCCTTTTCTBGCCCCGGC-3' (FRAG. NO:1946) (SEQ. ID NO: 1959)
 5'-CCCBGCCCCGCGCCTTTTCTBGCCCCGGC-3' (FRAG. NO:1947) (SEQ. ID NO: 1960)
 5'-CCBGCCCCGCGCCTTTTCTBGCCCCGGC-3' (FRAG. NO:1948) (SEQ. ID NO: 1961)
 5'-CBGCCCCGCGCCTTTTCTBGCCCCGGC-3' (FRAG. NO:1948) (SEQ. ID NO: 1962)
 5'-BGCCCCGCGCCTTTTCTBGCCCCGGC-3' (FRAG. NO:1950) (SEQ. ID NO: 1963)
 60 5'-GCCCCGCGCCTTTTCTBGCCCCGGC-3' (FRAG. NO:1951) (SEQ. ID NO: 1964)

- 5'-CCCCGCCGCTTTTCTBGCCCCGGC-3' (FRAG. NO:1952) (SEQ. ID NO: 1965)
 5'-CCCCGCCGCTTTTCTBGCCCCGGC-3' (FRAG. NO:1953) (SEQ. ID NO: 1966)
 5'-CCGCCGCTTTTCTBGCCCCGGC-3' (FRAG. NO:1954) (SEQ. ID NO: 1967)
 5'-CGCCGCTTTTCTBGCCCCGGC-3' (FRAG. NO:1955) (SEQ. ID NO: 1968)
 5'-GCCGCTTTTCTBGCCCCGGC-3' (FRAG. NO:1956) (SEQ. ID NO: 1969)
 5'-CCGCTTTTCTBGCCCCGGC-3' (FRAG. NO:1957) (SEQ. ID NO: 1970)
 5'-CGCCTTTTCTBGCCCCGGC-3' (FRAG. NO:1958) (SEQ. ID NO: 1971)
 5'-GCCTTTTCTBGCCCCGGC-3' (FRAG. NO:1959) (SEQ. ID NO: 1972)
 5'-CCTTTTCTBGCCCCGGC-3' (FRAG. NO:1960) (SEQ. ID NO: 1973)
 5'-CTTTTCTBGCCCCGGC-3' (FRAG. NO:1961) (SEQ. ID NO: 1974)
 5'-TTTCTBGCCCCGGC-3' (FRAG. NO:1962) (SEQ. ID NO: 1975)
 5'-TTTCTBGCCCCGGC-3' (FRAG. NO:1963) (SEQ. ID NO: 1976)
 5'-TTCTBGCCCCGGC-3' (FRAG. NO:1964) (SEQ. ID NO: 1977)
 5'-TCTBGCCCCGGC-3' (FRAG. NO:1965) (SEQ. ID NO: 1978)
 5'-CTBGCCCCGGC-3' (FRAG. NO:1966) (SEQ. ID NO: 1979)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1967) (SEQ. ID NO: 1980)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1968) (SEQ. ID NO: 1981)
 5'-GCGBGCTGTBCCTCGCTGGGC-3' (FRAG. NO:1969) (SEQ. ID NO: 1982)
 5'-GCGBGCTGTBCCTCGCTGGG-3' (FRAG. NO:1970) (SEQ. ID NO:1983)
 5'-GCGBGCTGTBCCTCGCTGG-3' (FRAG. NO:1971) (SEQ. ID NO:1984)
 5'-GCGBGCTGTBCCTCGCTG-3' (FRAG. NO:1972) (SEQ. ID NO:1985)
 5'-GCGBGCTGTBCCTCGCT-3' (FRAG. NO:1973) (SEQ. ID NO:1986)
 5'-GCGBGCTGTBCCTCGC-3' (FRAG. NO:1974) (SEQ. ID NO:1987)
 5'-GCGBGCTGTBCCTCG-3' (FRAG. NO:1975) (SEQ. ID NO:1988)
 5'-GCGBGCTGTBCCTC-3' (FRAG. NO:1976) (SEQ. ID NO:1989)
 5'-GCGBGCTGTBCCT-3' (FRAG. NO:1977) (SEQ. ID NO:1990)
 5'-GCGBGCTGTBCCT-3' (FRAG. NO:1978) (SEQ. ID NO:1991)
 5'-GCGBGCTGTBCCT-3' (FRAG. NO:1979) (SEQ. ID NO:1992)
 5'-GCGBGCTGTBC-3' (FRAG. NO:1980) (SEQ. ID NO:1993)
 5'-GCGBGCTGTCT-3' (FRAG. NO:1981) (SEQ. ID NO:1994)
 5'-GCGBGCTGT-3' (FRAG. NO:1982) (SEQ. ID NO:1995)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1983) (SEQ. ID NO:1996)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1984) (SEQ. ID NO:1997)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1985) (SEQ. ID NO:1998)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1986) (SEQ. ID NO:1999)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1987) (SEQ. ID NO:2000)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1988) (SEQ. ID NO:2001)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1989) (SEQ. ID NO:2002)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1990) (SEQ. ID NO:2003)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1991) (SEQ. ID NO:2004)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1992) (SEQ. ID NO:2005)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1993) (SEQ. ID NO:2006)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1994) (SEQ. ID NO:2007)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1995) (SEQ. ID NO:2008)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1996) (SEQ. ID NO:2009)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1997) (SEQ. ID NO:2010)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1998) (SEQ. ID NO:2011)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:1999) (SEQ. ID NO:2012)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:2000) (SEQ. ID NO:2013)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:2001) (SEQ. ID NO:2014)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:2002) (SEQ. ID NO:2015)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:2003) (SEQ. ID NO:2016)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:2004) (SEQ. ID NO:2017)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:2005) (SEQ. ID NO:2018)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:2006) (SEQ. ID NO:2019)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:2007) (SEQ. ID NO:2020)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:2008) (SEQ. ID NO:2021)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:2009) (SEQ. ID NO:2022)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:2010) (SEQ. ID NO:2023)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:2011) (SEQ. ID NO:2024)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:2012) (SEQ. ID NO:2025)
 5'-GCGBGCTGTBCCTCGCTGGGCC-3' (FRAG. NO:2013) (SEQ. ID NO:2026)

- 5'-GCGCGGCCGTCBT3G-3' (FRAG. NO:2014) (SEQ. ID NO:2027)
5'-GCGCGGCCGTCBT3-3' (FRAG. NO:2015) (SEQ. ID NO:2028)
5'-GCGCGGCCGTCBT3' (FRAG. NO:2016) (SEQ. ID NO:2029)
5'-GCGCGGCCGTCB-3' (FRAG. NO:2017) (SEQ. ID NO:2030)
5 5'-GCGCGGCCGTC-3' (FRAG. NO:2018) (SEQ. ID NO:2031)
5'-GCGCGGCCGT-3' (FRAG. NO:2019) (SEQ. ID NO:2032)
5'-CGCGGCCGTCBTG3CGGCGTCGGGCCGGGC-3' (FRAG. NO:2020) (SEQ. ID NO:2033)
5'-GCGGCCGTCBTGG3GGCGTCGGGCCGGGC-3' (FRAG. NO:2021) (SEQ. ID NO:2034)
5'-CGGCCGTCBTGGC3GGCGTCGGGCCGGGC-3' (FRAG. NO:2022) (SEQ. ID NO:2035)
10 5'-GGCCGTCBTGGCG3CGTCGGGCCGGGC-3' (FRAG. NO:2023) (SEQ. ID NO:2036)
5'-GCCGTCBTGGCGG3GTCGGGCCGGGC-3' (FRAG. NO:2024) (SEQ. ID NO:2037)
5'-CCGTCBTGGCGGC3TCGGGCCGGGC-3' (FRAG. NO:2025) (SEQ. ID NO:2038)
5'-CGTCBTGGCGGCGTCGGGCCGGGC-3' (FRAG. NO:2026) (SEQ. ID NO:2039)
5'-GTCBTGGCGGCGTCGGGCCGGGC-3' (FRAG. NO:2027) (SEQ. ID NO:2040)
15 5'-TCBTGGCGGCGTCGGGCCGGGC-3' (FRAG. NO:2028) (SEQ. ID NO:2041)
5'-CBTGGCGGCGTCGGGCCGGGC-3' (FRAG. NO:2029) (SEQ. ID NO:2042)
5'-BTGGCGGCGTCGGGCCGGGC-3' (FRAG. NO:2030) (SEQ. ID NO:2043)
5'-TGGCGGCGTCGGGCCGGGC-3' (FRAG. NO:2031) (SEQ. ID NO:2044)
5'-GGCGGCGTCGGGCCGGGC-3' (FRAG. NO:2032) (SEQ. ID NO:2045)
20 5'-GCGGCGTCGGGCCGGGC-3' (FRAG. NO:2033) (SEQ. ID NO:2046)
5'-CGGCGTCGGGCCGGGC-3' (FRAG. NO:2034) (SEQ. ID NO:2047)
5'-GGCGTCGGGCCGGGC-3' (FRAG. NO:2035) (SEQ. ID NO:2048)
5'-GCGTCGGGCCGGGC-3' (FRAG. NO:2036) (SEQ. ID NO:2049)
5'-CGTCGGGCCGGGC-3' (FRAG. NO:2037) (SEQ. ID NO:2050)
25 5'-GTCGGGCCGGGC-3' (FRAG. NO:2038) (SEQ. ID NO:2051)
5'-TCGGGCCGGGC-3' (FRAG. NO:2039) (SEQ. ID NO:2052)
5'-CGGCCGGGC-3' (FRAG. NO:2040) (SEQ. ID NO:2053)
5'-CCGCBGGCCBGGG3GCGCCGCCGGGCCGGGC-3' (FRAG. NO:2041) (SEQ. ID NO:2054)
5'-CCGCBGGCCBGGG3GCGCCGCCGGGCCGGGC-3' (FRAG. NO:2042) (SEQ. ID NO:2055)
30 5'-CCGCBGGCCBGGG3GCGCCGCCGGGCCGGGC-3' (FRAG. NO:2043) (SEQ. ID NO:2056)
5'-CCGCBGGCCBGGG3GCGCCGCCGGGCCGGGC-3' (FRAG. NO:2044) (SEQ. ID NO:2057)
5'-CCGCBGGCCBGGG3GCGCCGCCGGGCCGGGC-3' (FRAG. NO:2045) (SEQ. ID NO:2058)
5'-CCGCBGGCCBGGG3GCGCCGCCGGGCCGGGC-3' (FRAG. NO:2046) (SEQ. ID NO:2059)
5'-CCGCBGGCCBGGG3GCGCCGCCGGGCCGGGC-3' (FRAG. NO:2047) (SEQ. ID NO:2060)
35 5'-CCGCBGGCCBGGG3GCGCCGCCGGGCCGGGC-3' (FRAG. NO:2048) (SEQ. ID NO:2061)
5'-CCGCBGGCCBGGG3GCGCCGCCGGGC-3' (FRAG. NO:2049) (SEQ. ID NO:2062)
5'-CCGCBGGCCBGGG3GCGCCGCCG-3' (FRAG. NO:2050) (SEQ. ID NO:2063)
5'-CCGCBGGCCBGGG3GCGCCGCC-3' (FRAG. NO:2051) (SEQ. ID NO:2064)
5'-CCGCBGGCCBGGG3GCGCCGC-3' (FRAG. NO:2052) (SEQ. ID NO:2065)
40 5'-CCGCBGGCCBGGG3GCGCCG-3' (FRAG. NO:2053) (SEQ. ID NO:2066)
5'-CCGCBGGCCBGGG3GCGCC-3' (FRAG. NO:2054) (SEQ. ID NO:2067)
5'-CCGCBGGCCBGGG3GCGC-3' (FRAG. NO:2055) (SEQ. ID NO:2068)
5'-CCGCBGGCCBGGG3GCG-3' (FRAG. NO:2056) (SEQ. ID NO:2069)
5'-CCGCBGGCCBGGG3GC-3' (FRAG. NO:2057) (SEQ. ID NO:2070)
45 5'-CCGCBGGCCBGGG3G-3' (FRAG. NO:2058) (SEQ. ID NO:2071)
5'-CCGCBGGCCBGGG3-3' (FRAG. NO:2059) (SEQ. ID NO:2072)
5'-CCGCBGGCCBGGG3' (FRAG. NO:2060) (SEQ. ID NO:2073)
5'-CCGCBGGCCBGG3' (FRAG. NO:2061) (SEQ. ID NO:2074)
5'-CCGCBGGCCBG-3' (FRAG. NO:2062) (SEQ. ID NO:2075)
50 5'-CCGCBGGCCB-3' (FRAG. NO:2063) (SEQ. ID NO:2076)
5'-CCGCBGGCC-3' (FRAG. NO:2064) (SEQ. ID NO:2077)
5'-CGCBGGCCBGGGCGCGCCGCCGGGCCGGGC-3' (FRAG. NO:2065) (SEQ. ID NO:2078)
5'-GCBGGCCBGGGCGCGCCGCCGGGCCGGGC-3' (FRAG. NO:2066) (SEQ. ID NO:2079)
5'-CBGGCCBGGGCGCGCGCCGCCGGGCCGGGC-3' (FRAG. NO:2067) (SEQ. ID NO:2080)
55 5'-BGGCCBGGGCGCGCGCGCCGCCGGGCCGGGC-3' (FRAG. NO:2068) (SEQ. ID NO:2081)
5'-GGCCBGGGCGCGCGCGCGCCGCCGGGCCGGGC-3' (FRAG. NO:2069) (SEQ. ID NO:2082)
5'-GCCBGGGCGCGCGCGCGCGCCGCCGGGCCGGGC-3' (FRAG. NO:2070) (SEQ. ID NO:2083)
5'-CBGGGCGCGCGCGCGCGCGCGCCGGGCCGGGC-3' (FRAG. NO:2071) (SEQ. ID NO:2084)
5'-CBGGGCGCGCGCGCGCGCGCGCGCCGGGCCGGGC-3' (FRAG. NO:2072) (SEQ. ID NO:2085)
60 5'-BGGGCGCGCGCGCGCGCGCGCGCGCCGGGCCGGGC-3' (FRAG. NO:2073) (SEQ. ID NO:2086)
5'-GGGCGCGCGCGCGCGCGCGCGCGCGCCGGGCCGGGC-3' (FRAG. NO:2074) (SEQ. ID NO:2087)
5'-GGGCGCGCGCGCGCGCGCGCGCGCGCGCCGGGCCGGGC-3' (FRAG. NO:2075) (SEQ. ID NO:2088)

- 5'-GCGCGCCGCCGGCCGGGCCG-3' (FRAG. NO:2076) (SEQ. ID NO:2089)
5'-CGCGCCCGCGCCGGGCCG-3' (FRAG. NO:2077) (SEQ. ID NO:2090)
5'-GCGCCCGCGCCGGGCCG-3' (FRAG. NO:2078) (SEQ. ID NO:2091)
5'-CGCCCGCGCCGGGCCG-3' (FRAG. NO:2079) (SEQ. ID NO:2092)
5 5'-GCCCGCGCCGGGCCG-3' (FRAG. NO:2080) (SEQ. ID NO:2093)
5'-CCGCGCGCCGGGCCG-3' (FRAG. NO:2081) (SEQ. ID NO:2094)
5'-CGCCCGCGCCGGGCC-3' (FRAG. NO:2082) (SEQ. ID NO:2095)
5'-GCCCGCGCCGGCCG-3' (FRAG. NO:2083) (SEQ. ID NO:2096)
5'-CCGCGCGCCGGCC-3' (FRAG. NO:2084) (SEQ. ID NO:2097)
10 5'-CGCGCGCGCCG-3' (FRAG. NO:2085) (SEQ. ID NO:2098)
5'-GGCGCGCGCCG-3' (FRAG. NO:2086) (SEQ. ID NO:2099)
5'-GGGCGCBGGCTCC3CB-3' (FRAG. NO:2087) (SEQ. ID NO:2100)
5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGCTTGCCCGCCCGGCCG-3' (FRAG. NO:2088) (SEQ. ID NO:2101)
5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGCTTGCCCGCCCGGCCG-3' (FRAG. NO:2089) (SEQ. ID NO:2102)
15 5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGCTTGCCCGCCCGGCC-3' (FRAG. NO:2090) (SEQ. ID NO:2103)
5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGCTTGCCCGCCCGGCC-3' (FRAG. NO:2091) (SEQ. ID NO:2104)
5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGCTTGCCCGCCCGGC-3' (FRAG. NO:2092) (SEQ. ID NO:2105)
5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGCTTGCCCGCCCGG-3' (FRAG. NO:2093) (SEQ. ID NO:2106)
5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGCTTGCCCGCCCG-3' (FRAG. NO:2094) (SEQ. ID NO:2107)
20 5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGCTTGCCCGCCCG-3' (FRAG. NO:2095) (SEQ. ID NO:2108)
5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGCTTGCCCGCC-3' (FRAG. NO:2096) (SEQ. ID NO:2109)
5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGCTTGCCCGC-3' (FRAG. NO:2097) (SEQ. ID NO:2110)
5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGCTTGCCCG-3' (FRAG. NO:2098) (SEQ. ID NO:2111)
5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGCTTGCCCG-3' (FRAG. NO:2099) (SEQ. ID NO:2112)
25 5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGCTTGCC-3' (FRAG. NO:2100) (SEQ. ID NO:2113)
5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGCTTGCC-3' (FRAG. NO:2101) (SEQ. ID NO:2114)
5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGCTTG-3' (FRAG. NO:2102) (SEQ. ID NO:2115)
5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGCTT-3' (FRAG. NO:2103) (SEQ. ID NO:2116)
5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGCT-3' (FRAG. NO:2104) (SEQ. ID NO:2117)
30 5'-GGGCCCCTGGCTCGGCCCGCGGCCCGGC-3' (FRAG. NO:2105) (SEQ. ID NO:2118)
5'-GGGCCCCTGGCTCGGCCCGCGGCCCGG-3' (FRAG. NO:2106) (SEQ. ID NO:2119)
5'-GGGCCCCTGGCTCGGCCCGCGGCCCG-3' (FRAG. NO:2107) (SEQ. ID NO:2120)
5'-GGGCCCCTGGCTCGGCCCGCGGCC-3' (FRAG. NO:2108) (SEQ. ID NO:2121)
5'-GGGCCCCTGGCTCGGCCCGCGGCC-3' (FRAG. NO:2109) (SEQ. ID NO:2122)
35 5'-GGGCCCCTGGCTCGGCCCGCGGCC-3' (FRAG. NO:2110) (SEQ. ID NO:2123)
5'-GGGCCCCTGGCTCGGCCCGCGG-3' (FRAG. NO:2111) (SEQ. ID NO:2124)
5'-GGGCCCCTGGCTCGGCCCGG-3' (FRAG. NO:2112) (SEQ. ID NO:2125)
5'-GGGCCCCTGGCTCGGCCCG-3' (FRAG. NO:2113) (SEQ. ID NO:2126)
5'-GGGCCCCTGGCTCGGCCG-3' (FRAG. NO:2114) (SEQ. ID NO:2127)
40 5'-GGGCCCCTGGCTCGGCC-3' (FRAG. NO:2115) (SEQ. ID NO:2128)
5'-GGGCCCCTGGCTCGGCC-3' (FRAG. NO:2116) (SEQ. ID NO:2129)
5'-GGGCCCCTGGCTCGGC-3' (FRAG. NO:2117) (SEQ. ID NO:2130)
5'-GGGCCCCTGGCTCGC-3' (FRAG. NO:2118) (SEQ. ID NO:2131)
5'-GGGCCCCTGGCTCG-3' (FRAG. NO:2119) (SEQ. ID NO:2132)
45 5'-GGGCCCCTGGCTC-3' (FRAG. NO:2120) (SEQ. ID NO:2133)
5'-GGGCCCCTGGCT-3' (FRAG. NO:2121) (SEQ. ID NO:2134)
5'-GGGCCCCTGGCT-3' (FRAG. NO:2122) (SEQ. ID NO:2135)
5'-GGCCCCTGGCTCGGCCCGCGGCCCGGCTTGCCCGCCCGGCCG-3' (FRAG. NO:2123) (SEQ. ID NO:2136)
5'-GCCCTGGCTCGGCCCGCGGCCCGGCTTGCCCGCCCGGCCG-3' (FRAG. NO:2124) (SEQ. ID NO:2137)
50 5'-CCCTGGCTCGGCCCGCGGCCCGGCTTGCCCGCCCGGCCG-3' (FRAG. NO:2125) (SEQ. ID NO:2138)
5'-CCCTGGCTCGGCCCGCGGCCCGGCTTGCCCGCCCGGCCG-3' (FRAG. NO:2126) (SEQ. ID NO:2139)
5'-CCTGGCTCGGCCCGCGGCCCGGCTTGCCCGCCCGGCCG-3' (FRAG. NO:2127) (SEQ. ID NO:2140)
5'-CTGGCTCGGCCCGCGGCCCGGCTTGCCCGCCCGGCCG-3' (FRAG. NO:2128) (SEQ. ID NO:2141)
5'-TGGCTCGGCCCGCGGCCCGGCTTGCCCGCCCGGCCG-3' (FRAG. NO:2129) (SEQ. ID NO:2142)
55 5'-GGCTCGGCCCGCGGCCCGGCTTGCCCGCCCGGCCG-3' (FRAG. NO:2130) (SEQ. ID NO:2143)
5'-GCTCGGCCCGCGGCCCGGCTTGCCCGCCCGGCCG-3' (FRAG. NO:2131) (SEQ. ID NO:2144)
5'-CTCGGCCCGCGGCCCGGCTTGCCCGCCCGGCCG-3' (FRAG. NO:2132) (SEQ. ID NO:2145)
5'-TCGGGCCCGCGGCCCGGCTTGCCCGCCCGGCCG-3' (FRAG. NO:2133) (SEQ. ID NO:2146)
5'-CGGCCCGCGGCCCGGCTTGCCCGCCCGGCCG-3' (FRAG. NO:2134) (SEQ. ID NO:2147)
60 5'-GGGCCCGCGGCCCGGCTTGCCCGCCCGGCCG-3' (FRAG. NO:2135) (SEQ. ID NO:2148)
5'-GCCCGCGGCCCGGCTTGCCCGCCCGGCCG-3' (FRAG. NO:2136) (SEQ. ID NO:2149)
5'-CCCCGCGGCCCGGCTTGCCCGCCCGGCCG-3' (FRAG. NO:2137) (SEQ. ID NO:2150)

- 5'-CCCGCGGCCCGGCTTGCCCGCCCGGCCCGG-3' (FRAG. NO:2138) (SEQ. ID NO:2151)
5'-CCGCGGCCCGGCTTGCCCGCCCGGCCCGG-3' (FRAG. NO:2139) (SEQ. ID NO:2152)
5'-CGCGGCCCGGCTTGCCCGCCCGGCCCGG-3' (FRAG. NO:2140) (SEQ. ID NO:2153)
5'-GCGGCCCGGCTTGCCCGCCCGGCCCGG-3' (FRAG. NO:2141) (SEQ. ID NO:2154)
5'-CGGCCCGGCTTGCCCGCCCGGCCCGG-3' (FRAG. NO:2142) (SEQ. ID NO:2155)
5'-GGCCCGGCTTGCCCGCCCGGCCCGG-3' (FRAG. NO:2143) (SEQ. ID NO:2156)
5'-GCCCCGCTTGCCCGCCCGGCCCGG-3' (FRAG. NO:2144) (SEQ. ID NO:2157)
5'-CCCGGCTTGCCCGCCCGGCCCGG-3' (FRAG. NO:2145) (SEQ. ID NO:2158)
5'-CCGGCTTGCCCGCCCGGCCCGG-3' (FRAG. NO:2146) (SEQ. ID NO:2159)
5'-CGGCTTGCCCGCCCGGCCCGG-3' (FRAG. NO:2147) (SEQ. ID NO:2160)
5'-GGCTTGCCCGCCCGGCCCGG-3' (FRAG. NO:2148) (SEQ. ID NO:2161)
5'-GCTTGCCCGCCCGGCCCGG-3' (FRAG. NO:2149) (SEQ. ID NO:2162)
5'-CTTGCCCGCCCGGCCCGG-3' (FRAG. NO:2150) (SEQ. ID NO:2163)
5'-TTGCCCGCCCGGCCCGG-3' (FRAG. NO:2151) (SEQ. ID NO:2164)
5'-TGCCCGCCCGGCCCGG-3' (FRAG. NO:2152) (SEQ. ID NO:2165)
5'-GCCCCCGGCCCGG-3' (FRAG. NO:2153) (SEQ. ID NO:2166)
5'-CCCGCCCGGCCCGG-3' (FRAG. NO:2154) (SEQ. ID NO:2167)
5'-CCGCCCGGCCCGG 3' (FRAG. NO:2155) (SEQ. ID NO:2168)
5'-CGCCCGGCCCGG-3' (FRAG. NO:2156) (SEQ. ID NO:2169)
5'-GCCCCCGGCCCGG-3' (FRAG. NO:2157) (SEQ. ID NO:2170)
5'-GGCGGGGGCGGCGCGCCTGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2158) (SEQ. ID NO:2171)
5'-GGCGGGGGCGGCGCGCCTGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2159) (SEQ. ID NO:2172)
5'-GGCGGGGGCGGCGCGCCTGGCTCGCCTBGGGCC-3' (FRAG. NO:2160) (SEQ. ID NO:2173)
5'-GGCGGGGGCGGCGCGCCTGGCTCGCCTBGGGC-3' (FRAG. NO:2161) (SEQ. ID NO:2174)
5'-GGCGGGGGCGGCGCGCCTGGCTCGCCTBGGG-3' (FRAG. NO:2162) (SEQ. ID NO:2175)
5'-GGCGGGGGCGGCGCGCCTGGCTCGCCTBGG-3' (FRAG. NO:2163) (SEQ. ID NO:2176)
5'-GGCGGGGGCGGCGCGCCTGGCTCGCCTBG-3' (FRAG. NO:2164) (SEQ. ID NO:2177)
5'-GGCGGGGGCGGCGCGCCTGGCTCGCCTB-3' (FRAG. NO:2165) (SEQ. ID NO:2178)
5'-GGCGGGGGCGGCGCGCCTGGCTCGCCT-3' (FRAG. NO:2166) (SEQ. ID NO:2179)
5'-GGCGGGGGCGGCGCGCCTGGCTCGCC-3' (FRAG. NO:2167) (SEQ. ID NO:2180)
5'-GGCGGGGGCGGCGCGCCTGGCTCGC-3' (FRAG. NO:2168) (SEQ. ID NO:2181)
5'-GGCGGGGGCGGCGCGCCTGGCTCG-3' (FRAG. NO:2169) (SEQ. ID NO:2182)
5'-GGCGGGGGCGGCGCGCCTGGCTC-3' (FRAG. NO:2170) (SEQ. ID NO:2183)
5'-GGCGGGGGCGGCGCGCCTGGCT-3' (FRAG. NO:2171) (SEQ. ID NO:2184)
5'-GGCGGGGGCGGCGCGCCTGGC-3' (FRAG. NO:2172) (SEQ. ID NO:2185)
5'-GGCGGGGGCGGCGCGCCTGG-3' (FRAG. NO:2173) (SEQ. ID NO:2186)
5'-GGCGGGGGCGGCGCGCCTG-3' (FRAG. NO:2174) (SEQ. ID NO:2187)
5'-GGCGGGGGCGGCGCGCCT-3' (FRAG. NO:2175) (SEQ. ID NO:2188)
5'-GGCGGGGGCGGCGCGCC-3' (FRAG. NO:2176) (SEQ. ID NO:2189)
5'-GGCGGGGGCGGCGCGC-3' (FRAG. NO:2177) (SEQ. ID NO:2190)
5'-GGCGGGGGCGGCGCG-3' (FRAG. NO:2178) (SEQ. ID NO:2191)
5'-GGCGGGGGCGGCGG-3' (FRAG. NO:2179) (SEQ. ID NO:2192)
5'-GGCGGGGGCGGCG-3' (FRAG. NO:2180) (SEQ. ID NO:2193)
5'-GGCGGGGGCGGC-3' (FRAG. NO:2181) (SEQ. ID NO:2194)
5'-GGCGGGGGCGGC-3' (FRAG. NO:2182) (SEQ. ID NO:2195)
5'-GGCGGGGGCGG-3' (FRAG. NO:2183) (SEQ. ID NO:2196)
5'-GCGGGGGCGGCGGCGCCTGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2184) (SEQ. ID NO:2197)
5'-CGGGGGCGGCGGCGCCTGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2185) (SEQ. ID NO:2198)
5'-GGGGGGCGGCGGCGCCTGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2186) (SEQ. ID NO:2199)
5'-GGGGGGCGGCGGCGCCTGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2187) (SEQ. ID NO:2200)
5'-GGGGGGCGGCGGCGCCTGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2188) (SEQ. ID NO:2201)
5'-GGGGGGCGGCGGCGCCTGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2189) (SEQ. ID NO:2202)
5'-GCGGGCGGCGCCTGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2190) (SEQ. ID NO:2203)
5'-CGGGGGCGGCGCCTGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2191) (SEQ. ID NO:2204)
5'-GGGGGGCGGCGCCTGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2192) (SEQ. ID NO:2205)
5'-GCGGGCGCCTGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2193) (SEQ. ID NO:2206)
5'-CGGGCGCCTGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2194) (SEQ. ID NO:2207)
5'-GGCGGCTGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2195) (SEQ. ID NO:2208)
5'-GCGGCTGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2196) (SEQ. ID NO:2209)
5'-CGCCTGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2197) (SEQ. ID NO:2210)
5'-GCCTGGCTCGCCTGGGCCCC-3' (FRAG. NO:2198) (SEQ. ID NO:2211)
5'-CCTGGCTCGCCTBCGGCCCC-3' (FRAG. NO:2199) (SEQ. ID NO:2212)

- 5'-CTGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2200) (SEQ. ID NO:2213)
5'-TGGCTCGCCTBGGGCCCC-3' (FRAG. NO:2201) (SEQ. ID NO:2214)
5'-GGCTCGCTBGGGCCCC-3' (FRAG. NO:2202) (SEQ. ID NO:2215)
5'-GCTCGCTBGGGCCCC-3' (FRAG. NO:2203) (SEQ. ID NO:2216)
5 5'-CTCGCTBGGGCCCC-3' (FRAG. NO:2204) (SEQ. ID NO:2217)
5'-TCGCTBGGGCCCC-3' (FRAG. NO:2205) (SEQ. ID NO:2218)
5'-CGCTBGGGCCCC-3' (FRAG. NO:2206) (SEQ. ID NO:2219)
5'-GCCTBGGGCCCC-3' (FRAG. NO:2207) (SEQ. ID NO:2220)
5'-CCTBGGGCCCC-3' (FRAG. NO:2208) (SEQ. ID NO:2221)
10 5'-CTBGGGCCCC-3' (FRAG. NO:2209) (SEQ. ID NO:2222)
5'-GGGTGGGCBGCGGCC-3' (FRAG. NO:2210) (SEQ. ID NO:2223)
5'-GGTCGGCGBBBGCTCGTCGTGGC-3' (FRAG. NO:2211) (SEQ. ID NO:2224)
5'-GGTCGGCGBBBGCTCGTCGTGG-3' (FRAG. NO:2212) (SEQ. ID NO:2225)
5'-GGTCGGCGBBBGCTCGTCGTG-3' (FRAG. NO:2213) (SEQ. ID NO:2226)
15 5'-GGTCGGCGBBBGCTCGTCGT-3' (FRAG. NO:2214) (SEQ. ID NO:2227)
5'-GGTCGGCGBBBGCTCGTCG-3' (FRAG. NO:2215) (SEQ. ID NO:2228)
5'-GGTCGGCGBBBGCTCGTC-3' (FRAG. NO:2216) (SEQ. ID NO:2229)
5'-GGTCGGCGBBBGCTCGT-3' (FRAG. NO:2217) (SEQ. ID NO:2230)
5'-GGTCGGCGBBBGCTCG-3' (FRAG. NO:2218) (SEQ. ID NO:2231)
20 5'-GGTCGGCGBBBGCTC-3' (FRAG. NO:2219) (SEQ. ID NO:2232)
5'-GGTCGGCGBBBGCT-3' (FRAG. NO:2220) (SEQ. ID NO:2233)
5'-GGTCGGCGBBBGCT-3' (FRAG. NO:2221) (SEQ. ID NO:2234)
5'-GGTCGGCGBBBG-3' (FRAG. NO:2222) (SEQ. ID NO:2235)
5'-GGTCGGCGBBB-3' (FRAG. NO:2223) (SEQ. ID NO:2236)
25 5'-GGTCGGCGBB-3' (FRAG. NO:2224) (SEQ. ID NO:2237)
5'-GTCGGCGBBBGCTCGTCGTGGC-3' (FRAG. NO:2225) (SEQ. ID NO:2238)
5'-TCGGCGBBBGCTCGTCGTGGC-3' (FRAG. NO:2226) (SEQ. ID NO:2239)
5'-CGGCGBBBGCTCGTCGTGGC-3' (FRAG. NO:2227) (SEQ. ID NO:2240)
5'-GGCGBBBGCTCGTCGTGGC-3' (FRAG. NO:2228) (SEQ. ID NO:2241)
30 5'-GCGBBBGCTCGTCGTGGC-3' (FRAG. NO:2229) (SEQ. ID NO:2242)
5'-CGBBGCTCGTCC TGGC-3' (FRAG. NO:2230) (SEQ. ID NO:2243)
5'-GBBGCTCGTCGTGGC-3' (FRAG. NO:2231) (SEQ. ID NO:2244)
5'-BBBGCTCGTCGTGC-3' (FRAG. NO:2232) (SEQ. ID NO:2245)
5'-BGBGCTCGTCGTGC-3' (FRAG. NO:2233) (SEQ. ID NO:2246)
35 5'-BGGCTCGTCGTGGC-3' (FRAG. NO:2234) (SEQ. ID NO:2247)
5'-BGCTCGTCGTGGC-3' (FRAG. NO:2235) (SEQ. ID NO:2248)
5'-GCTCGTCGTGGC-3' (FRAG. NO:2236) (SEQ. ID NO:2249)
5'-CTCGTCGTGGC-3' (FRAG. NO:2237) (SEQ. ID NO:2250)
5'-TCGTCGTGGC-3' (FRAG. NO:2238) (SEQ. ID NO:2251)
40 5'-GGGGCCCCGCGCCGCC-3' (FRAG. NO:2239) (SEQ. ID NO:2252)
5'-GGGGCCCCGCGCCGCC-3' (FRAG. NO:2240) (SEQ. ID NO:2253)
5'-GGGGCCCCGCGCCGCC-3' (FRAG. NO:2241) (SEQ. ID NO:2254)
5'-GGGGCCCCGCGCCGCC-3' (FRAG. NO:2242) (SEQ. ID NO:2255)
5'-GGGGCCCCGCGCCGCC-3' (FRAG. NO:2243) (SEQ. ID NO:2256)
45 5'-GGGGCCCCGCGCCGCC-3' (FRAG. NO:2244) (SEQ. ID NO:2257)
5'-GGGGCCCCGCGCCGCC-3' (FRAG. NO:2245) (SEQ. ID NO:2258)
5'-GGGGCCCCGCGCCGCC-3' (FRAG. NO:2246) (SEQ. ID NO:2259)
5'-GGGGCCCCGCGC-3' (FRAG. NO:2247) (SEQ. ID NO:2260)
5'-GGGGCCCCGCGCCGCC-3' (FRAG. NO:2248) (SEQ. ID NO:2261)
50 5'-GGGGCCCCGCGCCGCC-3' (FRAG. NO:2249) (SEQ. ID NO:2262)
5'-GGGGCCCCGCGCCGCC-3' (FRAG. NO:2250) (SEQ. ID NO:2263)
5'-CCCCGCGCCGCCGCC-3' (FRAG. NO:2251) (SEQ. ID NO:2264)
5'-CCCCGCGCCGCCGCC-3' (FRAG. NO:2252) (SEQ. ID NO:2265)
5'-CCGCGCCGCCGCC-3' (FRAG. NO:2253) (SEQ. ID NO:2266)
55 5'-CGCGCCGCCGCC-3' (FRAG. NO:2254) (SEQ. ID NO:2267)
5'-GCGCGCCGCC-3' (FRAG. NO:2255) (SEQ. ID NO:2268)
5'-CGCGCCGCC-3' (FRAG. NO:2256) (SEQ. ID NO:2269)
5'-GCCGCCGCC-3' (FRAG. NO:2257) (SEQ. ID NO:2270)
5'-GGGGCGCGGGGCGCGGG-3' (FRAG. NO:2258) (SEQ. ID NO:2271)
60 5'-GGCGGGGCGGGCGGGCGGG-3' (FRAG. NO:2259) (SEQ. ID NO:2272)
5'-GGCGGTCGCGGTCGCGGCTCGCGC-3' (FRAG. NO:2260) (SEQ. ID NO:2273)
5'-GCGCGGCBBCGCGBGCCGGCGCG-3' (FRAG. NO:2261) (SEQ. ID NO:2274)

5'-GCGCBCGGGCCCCBCTGCGCGGGC-3' (FRAG. NO:2262) (SEQ. ID NO:2275)
 5'-GGGCGGGTGGGCTGCCCTGCGGCGGCC-3' (FRAG. NO:2263) (SEQ. ID NO:2276)
 5'-GGGCTGCTGCGCG3CGGCTCCGGCGA-3' (FRAG. NO:2264) (SEQ. ID NO:2277)
 5'-CTCCCGGGCGGG3CGGGCGCGGG-3' (FRAG. NO:2265) (SEQ. ID NO:2278)
 5'-GGGCTGCCGCGGT3CGGGCCCCCTCTGCGGCG-3' (FRAG. NO:2266) (SEQ. ID NO:2279)
 5'-GCGCTCGCGCCGCTGCCG-3' (FRAG. NO:2267) (SEQ. ID NO:2280)
 5'-GCGCCGCTTGCC TGTGCGGCG-3' (FRAG. NO:2268) (SEQ. ID NO:2281)
 5'-GCTGCTCCBCGCGCTGG-3' (FRAG. NO:2269) (SEQ. ID NO:2282)
 5'-GCCGGBGGCCGGC3BGGTCCCGCG-3' (FRAG. NO:2270) (SEQ. ID NO:2283)
 5'-CCCGGCGGCCGGC3GGBBGGGCGGGCTGGG-3' (FRAG. NO:2271) (SEQ. ID NO:2284)
 5'-GTCTCTCCCGCCCCGGCCGCG-3' (FRAG. NO:2272) (SEQ. ID NO:2285)
 5'-GGGCGTCCGCTCCGGGCGGTCGGG-3' (FRAG. NO:2273) (SEQ. ID NO:2286)
 5'-GCGGGCACGCGGC3GCTCTGGCGTCGGC-3' (FRAG. NO:2274) (SEQ. ID NO:2287)

Bradykinin Receptor Nucleic Acids and Antisense Oligonucleotide Fragments

15	5'-GGTGBCBTTG BGCBTGTGCGG CGCGGTCCCG TTBBGBGTGG GCCCGCCAGC CCAGCCACTC CACTTGGGGG
	CGGGTGGCCA GCACGAACAG CACCCAGAGG AAGGGGGGCG GCCCAGAAGG GCAGCCCGCA GGCCAGGATC
	AGGTCTGCTG CGGC CGGAGA TAATGGCATT CACCACGCGG CGGCCAGCG CACGCCGCGC ATCCGGCCCCG
	GGTTCTGACC TGCA GCCCCC GTCTCCTTGG CATTCTTGGG CCCAGTCAC TCCTCTCCCT GCCCCCTTG
	CTGGGGCAGG GAC3GGGTG BCBTTGBGCB TGTCGGCGCG GTCCCGTTBB GBTGGGGCCC AGCAGCCAG
20	CCACTCCACT TGGG3GCGGG TGGCCAGCAC GAACAGCACC CAGAGGAAGG GGGGCGGGCC AGAAGGCGAG
	CCCGCAGGCC AGGATCAGGT CTGCTGCGGC CGGAGATAAT GGCATTACAC ACGCGGCGGC CCAGCGCACG
	CCGCGCATCC GGCCCGGGTT CTGACCTGCA GCGCCCGTCT CTTGGCATT CTGGGGCCCC AGTCACTCT
	CTCCCTGCCC CCCTTGCTGG GGCAGGGACG GCCGTGTTGT CBGTGGTGCT GCGCGTTTGB GGTBTGCGC
	TCCBCCBBTT CCCTTTCTC CTGTTTTCC GTTCTCTTG CCGTCTGTGG TT CAGATTCACA AACTGCAGGA
25	CTGGGCAGGG AGCA GACAGT GAGCAAACGC CAGCAGGGCT GCTGTGAATT TGTGTAAGGA TTGAGGGACA
	GTTGCTTTTC AGCA TGGGCC CAGGAATGCC AAGGAGACAT CTATGCACGA CCTGGGAAA TGAGTTGATG
	TCTCCGGTAA AACACCGGAG ACTAATTCCT GCCCTGCCCA ATTTTGCAGG GAGCATGGCT GTGAGGATGG
	GGTGAACCTA CGCA CAGCCA AGGACTCAA AATCACAACA GCATTACTGT TCTTATTTGC TGCCACACCT
	GAGCCAGCCT GCTCCTTCCC AGGAGTGGAG GAGGCCTGGG GGGAGGGAGA GGAGTGACTG AGCTTCCCTC
30	CCGTGTGTTT TCCGTCCTG CCCCAGCAAG ACAACTAGA TCTCCAGGAG AACTGCCATC CAGCTTGGT
	GCAATGGCTG AGTCACAAAG TGAGTTGTTG CCCTGGGTTT CTTTAATCTA TTCAGCTAGA ACTTTGAAGG
	ACAATTTCTT GCATTAATAA AGGTTAAGCC CTGAGGGGTC CCTGATAACA ACCTGGAGAC CAGGATTTTA
	TGGTCCCTT CACT3ATGGA CAAGGAGGTC TGTGCCAAAG AAGAATCCAA TAAGCACATA TTGAGCACTT
	GCTGTATATG CAGTATTGAG CACTGTAGGC AAGAGCCAAAG AAAGAGAAGG AGCCATCTCC ATCTTGAAGG
35	AACTCAAAGA CTCAAGTGGG AACGACTGG CACTGCCACC ACCAGAAAGC TGTTGACGA GACGGTCGAG
	CAGGGTGCTG TGGGTGATAT GGACAGCAGA AGGGGGAGAC CAAGGTCCA GCTCAACCAA TAACTATTGC
	ACAACCACCT GTCCCTGCCT CAGTTCCTT TTATGTAACA TGAAGTCGTT GTGAGGGTTA AAGGCAGTAA
	CAGGTATAAA GTACTTAGAA AAGCAAAGGG TGCTACGTAC ATGTGAGGCA TCATTACGCA GACGTAACTG
	GGATATGTTT ACTATAAGGA AAAGACACTG AGGTCTAGAA ATAGTCCGT GGAGCAGAAT CAGTATTGGG
40	AGCCGGTGGC GGTC TGAAGC ACCAGTGTCT GGCACACAGT AGGTGCTCAT TGGTCCCTT CCACCTGTCA
	TTCCCAACC CCTG AGGCC CAACCGCAC ACACAGCAGA GCATTGGAG AGAAGGCCAT GTCTTCAAAG
	TCTGATTTGT GATG AGGCAG AGGAAGATAT TTCTAATCGG TCTTGCCAG AGGATCAGAG TGCTGAGACC
	CCCCACCACC AGCCGGTACC TGGGAAGGGG GAGAGTGCAG GCCTGCTCAG GGACTGTTCC TGTCTCAGCA
	ACCAAGGGAT GTTTCCTGTC AATCAATGGT TTATTGGAAG GTGGCCAGT ATGAGCCCTA GAAGAGTGTG
45	AAAAGGAATG GCAATGTTGT TCACCATCGG CAGTGCCAGG GCAGCACTCA TTCACTGAT AAATGAATAT
	TTATTAGCTG GTTGAGAGC TAGAACCTGG AGAGCTAGAA CCTGGAGAAC TAGAACCTGG AGGGCTAGAA
	CCTGGAGAGG CTAGAACCAA GAAGGGCTAG AACCTGGAGG GGCTAGAACC TAGAGAAGCT AAAACCTGAG
	CTAGAAGCTG GAGGACTAGA ACCTGGAGGG CTGGAATCTG AAGGGCTAGA ACCTGGAGGG CTGGAATCTG
50	GAGAGCTAGA ACCTGGAGGG CTAGAACCTG GAGGGCTAGA ACCTAGAAGG GCTAGAACCT GGAGGGCTGG
	AATCTGGAGA GCTAGAACCT GGAGGGCTAG AACCTGGAGG GCTAGAACCT AGAAGGGCTA GAACCTGGAG
	GGCTAGAACC TGGCAGGTTA GAACCTAGAA GGGCTAGAAC CTGGAGAGCC AGAACCTGGA GGGCTAGAAC
	CTGGAAGGGC TAGAACCTGT AGAGCTAGAA CATGGAGAGC TAGAACCCGG CAGGCTAGAA CCTGGCAAGC
	TAGAACCTGG AGGGAATGAA CCTGGAGGGC TAGAACCTGG AGAATGAGAA AAATTTACAT GGCAAGAGC
	CCATAAATCC TGACCAATCC AACTCTGAAT TTAAAGCAA AAGCGTGAAA AAAAAGATTC CCTCTTACC
55	CCCAACCCAC TCTTTTTC CACCACCAC TCTCTCTGC CTCAGTAAGT ATCTGGAGGA AGAAAACAGG
	TGAAAGAGA AGTAAAACC ATTAGTATT AGATTAGAA TGAAGTCAA CTGTGCCACA CATGGTGAAT
	GAAAAAAGG AAAAAGAGGC TGTGTTTGT CACACAGGGC AGTCATTGAG CACAGAGCA CGTGATGGTC
	TGAGACTCTC TTAGGAGCAG AGCTCTGCCG CAATGGCCAT GTGGGGATCC ACACCTGGTC TGAGGGGCAA
	CTGAGTCTGC GGGAGAAGAG CGGCCCTATG CATGGTGTAG ATGCCCTGAT AAAGAACATC TGTCTGTGA
60	AAGACTCAAT GAGCTGTTAT GTTGTAACA GGAAGCATTT CACATCCAAA CGAGAAAATC ATGTAACAT
	GTGTCTTTTC TGTAAGCAT AATAAATGGA TGAGGTTTT GCAAAAAAAA AAAAAAAA AAATGATAGA

CCGTCAATAA TTTC TTAAT GCTTTTAAAT ATGAATGCTT TAAGCCGGGT GCAGTGCCTC ACATCTGTAA
 TCCCAGCACT TTGGAGCCGA GCGGGTGGAT TGTGTGAGGT CAGGAGTTCG AGACCAACCT GGCCAACATG
 GCAAACCTC ACTCTCTACC AAAAATACAA AAATTAGCCA GGCATGGTGG CAGGCACCTG TGATCCCAAGC
 TACTCAGGAG GCTC AGACAG GAGAAATCGCT TGAACCCGGG AGGCAAGGTT GCAGTGAGCC AAGATTACGC
 5 CATTGTACTC CAGCCTGGGT GACAGAGAGA GACTCCGTCT CAAAAAATAA AAAAAAATAA AAAAAATTAC
 GCTTCAAACA CATGATCTCT CACCACTGTT GAATTTTCTT TCTATGAGCC CAGGAGGGCC TCTCAGAGAG
 GAAAGCTCCT AGGCTTCCT TTCCCTCTGC AAACCTCCCTG CCTTGAAGGT TCAGAAGGAC TGTGCGTGCT
 CGTTGCATCC TTGCAAGTG TCCAAACCTT GATCCCAGCT GTGCTTAGGG GTTCCTGCAA ACCTTTTCCA
 GGTGTTAATT ACCCTCCACT TCATTTCCTG TTTACCAACT CAGCTTTTGT TTTTAGTGTG TTTGAATTCC
 10 CTGAACTGAC CGTGTCTGA TCTCCACCTC CCAACTGAAT TAGGGGAGCT GGGCTTCTGG AAACCCAGGT
 GCCGGGTGTT GCACAGTGGC TGAAAGCTGG GATGTGGCAG ATCCGTGGCT ACATTATGC ACACACACAC
 ACCACATAC CCACATGTC ACACACACAC ACTCACACAC TTGGACATGC ATAGACCACA
 GCTTTCCACA CCCTTCCTAG ACAGGGGTCA CTTGGTATCC TGGAGAGAGT GTGAAGTCCT GGAATGGAAA
 GAGGGGGGAT TAAAGCCCACT CTCTAGCCAT GGGACTGAGA CAAGTACCA CCAACCCATC TGCGCCTTGT
 15 TTACCTCTC TGTGAGGCAA GCACAGAGCC CATGCCTGCC CCCCTGGATG GGAGTGATGT GAAACTTGAA
 GGGCGGTGAG AGCAAGGGTC GGGAAATGAA GGCCCTTGGG AAAAAAGGCC CTTTCAACTA GGGGCACAGA
 GGAGGCCCTG GGTGAGAAC TTGACAGCAC CTTGTAATTG GTAAGCCAAG CCCGAAGGGA CTGGAATAC
 TCAGATGTGT CTGTCTCCCT TATTAGGTTT AAAGTCCCTC AAGACCCTGT CTCCATCACA GTGCTCCAGT
 CCAGCCCTT CCTCTGAGCT CCAGACCCTG CTGGACCCA CCAGCCCTAT GGGGTGCGAT CCCCACCTGC
 20 CTGGAATTCT CCAAGAACCT TCCCCTTAA CAGTTCAGC CTTAACAGT TCCAGTCTAA ACACATGACC
 TTTCTCCTCT AAATCAGCCC CCCATCTCTG CCTTGCAGG AGATGGAAGC CATGACACCT GCCTCGCCCC
 TGTCTCACC CCATCCATGT CCAATCAAGC ACTAGGCATG TCAGGTTTAC CCTCTAAACT CCTCTGGAAT
 CCAGTCTCTC AGTCTCCATC ATCCAGGTC GAAGCTAATG GGCTAACTGG TCCTTGCTTC CACTCTACCC
 CCACTGCAGT CTGACTTCC TGAGCAGCAG CCAGGGCCTA ATCGATATTC ACACCAAGCG CCAACCTGAC
 25 TGAGATATCC TCTGACCA TCATCCCTCC ACCCTGTTA GTTCTGCTCA CCCTCAGTGT TCTCATCAAT
 AATCCACTCC CTTACAGGC GCGTTTGGGA CCCCATGTTT TATGCTCTCA CAGGACCTTT TGCTTGATTT
 TTCCTGTAC TTAGGTCAGT TTGCAATTAT TAAGTGACTG AGCAATGTCT GGCTTCTCCA GTAGACTGTC
 AGCTCCTAGC CATGTATAC CTAGCACCCG TGTGTGGGAG CACGTGACAA ACGTCCAGTG AGTCAGGGAC
 TCAGCAGTCT CCAATTCTCC GCCCTGCTGG AGAATGCGTG TATTTGGCAA TCCCCAGCCC CTGTGCCATC
 30 TAACCATCTT TTCTCTCTG TTCAGCCAG GTTCTGTCT GTTCGTGAGG ACTCCGTGCC CACCACGGCC TCTTTCAGGT
 TCTCCCTGGA AGAATCAAT GTTCTGTCT GTTCGTGAGG ACTCCGTGCC CACCACGGCC TCTTTCAGGT
 GAGTCAAAGG GATCTCTCAG TCACTAGTT AGGGGAGGTG GGCAGACACC CTGGAGAACT CCCTGGAAAG
 CTCAACTCTC ATGCCCCGGA CAACAGTTGA AGGAACCATG GTGATGTTAA GCCCCAAGAC AAAACCTCTC
 AGGTGTCAA GTCCCTGTTG GAATCTTGGG AGCAGAGGGA ATGTTCTGTG GTCTAGAGGA AGAGGGGCTC
 35 AGGTGAGAGA AGGTCACATT CTTGGTTGTT ATATGTTTCT ATCTATCCCA GATGAAGTTG GAAGTGAAGG
 GAAGAGAGTT AAACATTAAA GCTAAATACC AGTGGATCAG ACAGCAATGT GCCAGATTGC CTTGGAACA
 AAATATCTCC AACACATGGC TGACATTTGG TGGGAGATCA GAACACCCTA AAGAGAGAAT TTAAGGGGAG
 GGGGAGGAGG ACCGAGCCA GAGTAGAAGC AGAGGATAGG GAGATCTGTT CTTGGGGACA GCATTTGCAA
 GAAACAAGGC TGAGGGGTCC ACTCAAACCT CTCCACCCTG CTGCAGGTGC TGCTATGAT GAAGATGAGC
 40 AGATGGCCAT CTCGCTGGG GCCACAGTGC ACTGGACCTA TAGTTTCCAA TTCCGCACTC AGCAGGCATC
 TTTCTGATGA TCCGATGGCT TCTCAGAGCC AGGGATGGGC CAGGATCCAT CCCCTTGGCT ACTGTCTTGC
 TGAGAAATTT ATAAGCAGCA TCTGGTGCTA TCTTTTGGTC TCTAGTGAGT TAGCTCATGA AAGATGATAG
 ACTCTCAAG CCACGGGTAT GCAGGAAATG GATTTTCTGT AGCTACAGAA ATGGGGTTGA GGGTTGGACC
 AAGGGACTAC CCAAGGGGAA TCTTACCCTT AGAGGACTCT GGAAAGGAGG CTGCAAGTTT TCATGGGTCA
 45 AGAATTGAGA GCCAGTAGA GACAGCTTAT CTCTGTTCCT AGATGTCTGG GGCCTTGGTT GGAAGATTCA
 AAGGCTAGGA AACAGGAGC CACCAAAAGC GTAAGTGGG CCAGAGGATC CACTTTCAAG GTGGCAAGTT
 GGTTCCCCC ATGTGGCTGC TTGAGTATCC TCACATGGCG GCTCACATCC TTCCAAGTAA GCAATGCAAA
 AGGCCAAGAA AGATGCTGCA AAGATGTTAT GACCTAGCCT CAGAAATCAC ACACCATCCC TGCCACCATT
 AGTAAGAAGT CCACCCACG TCCAGGAGAA GAGGAAGCAG ATTCCTCCTT TTGAAATGAA GAATATCAAG
 50 TAATTCGGGG GGCATATGAA AGCCACCACA CACCACAGGG ATCTTTTATG AGCATACTTC TTATACCATC
 ACTGTAGTTC CTTAAGACTC AGGGGCAAAAG CCTCACTTCC TTAGCACCCA GTGAAGACCA CGCTTACTCC
 CTCCTCAAC CTCTGTCTAC TTCCACCTC TCCTGTCCAA CATCTAGTGT CACTTTCCAG AACATACCAA
 CAGCTTCCCC AGTCTGTGTC CTCTGCTCAG GCTGTTCCCC CTGCCTGGTC CACTTGTCTT CTTCTTGTG
 CGGTCAAAAT GCTCTTATC CTTCAAGACC CAGCTCTAGA GTCACCTCCA ACCCTTACC CACCAGCCCC
 55 CTCTCCAAGT CTGTGTCCCA CAACCCCTT GCTCCCTCCA GGGCACCTC CACCTCTGG GCCACAGTTG
 TCAGGAGTCA GGCAGGGCAG GGGCCGGGTG GTGTCTTCTT TGTGTTCTTG CACTCAGGGC AGAGCTCAGC
 ACAGAGCAGA CGCTCAAAA ACATTTAAAG CAGTAGAAGCA TTGATTTGTG GGTCCCCGAG TCTGGCTCCA
 GGATGCCAGC CAGCTGTCC TAGAAGCAAA CTGGGAAATC CCAGAGGTGA TGATCAGTAA
 TCTCTCCCGT GACTCGTAGT TCAGCTCTTC CTCCATGAGC CTGACTATCA GTGGACCTTC CAGAAAGAGC
 60 CCCTTTTCTT TCTCTACCC ACAGCACAGG GCACTGGGAA AATGCCCAAT GAGTCTGCTC TCTGGGTTGT
 GCTTTGGACT TTTCAGTGTG TCTCGCATCC ACTCTTCAAC TTGAATGTTG CAACAGCCAT GAAAAAGAA
 ATGCAAAGCG ATTCAGGATG AGAGCAATAC CCTACTCCAA AGAAGGCAAC ATAGAAGCTC AGAGAGATCA

004040 " 6294560

[illegible]

[illegible]

CAGTTCCAGC CTTTAAACAGT TCCAGTCTAA ACACATGACC TTTCTCCTCT AAATCAGCCC CCCATCTCTG
 CCTTTGCAGG AGATGGAAGC CATGACACCT GCCTCGCCCC TGTCCTCACC CCATCCATGT CCAATCAAGC
 ACTAGGCATG TCAGGTTTAC CCTCTAAAT CCTCTGGAAT CCAGTCTCTC AGTCTCCATC ATCCCAGGTC
 GAAGCTAATG GGC¹AACTGG TCCTTGCTTC CACTCTACCC CCAGTGCAGT CCTGACTTCC TGAGCAGCAG
 5 CCAGGGCCTA ATCCATATTC ACACCAAGCG CCAACCTGAC TGAGATATCC TCCTGCACCA TCATCCCTCC
 ACCCTGTTTA GTTCTGCTCA CCCTCAGTGT TCTCATCAAT AATCCACTCC CCTCACAGGC GCGTTTGGGA
 CCCCATGTTC TATCTCTCTA CAGGACCTTT TGCTTGATTT TTTACTGTAC TTAGGTCAGT TTGCAGTTAT
 TAAGTGACTG AGCAATGTCT GGCTTCTCCA GTAGACTGTC AGCTCCTAGC CATTGTATAC CTAGCACC GC
 TGTGTGGGAG CACCTGACAA ACGTCCAGTG AGTCAGGGAC TCAGCAGTCT CCATTTCTCC GCCCTGCTGG
 10 AGAATGCGTG TATTTGGCAA TCCCCAGCCC CTGTGCCATC TAACCATCTT TTCTTCTCTG TTCAGCCCAG
 GTGTGGCCTC ACTCATATCC CACTCTGAGT CCAATATGTT TCTCCCTGGA AGATATCAAT GTTTCTGTCT
 GTTCGTGAGG ACTTCGTGCC CACCACGGCC TCTTTCAAGT GAGTCAAAGG GATTCTCTCAG TTCACTAGTT
 AGGGGAGGTG GGCAGACACC CTGGAGAACT CCCTGGAAG AGGTGTCCAA ATGCCCCGGA CACACAGTTGA
 AGGAACCATG GTGA/TGTTAA GCCCAAAGAC AAAACCTCTC AGGTGTCCAA GTCCCTGTTG GAATCTTGGG
 15 AGCAGAGGGA ATG²TCTGTG GTCTAGAGGA AGAGGGGCTC AGGGAGGAGA AGGGCACATT CCTGGTTGTT
 ATATGTTTCT ATCTATCCCA GATGAACCTG GAAGTGAAGG GAAGAGAGTT AAACATTAAA GTAAATACCC
 AGTGGATCAG ACACGAATGT GCCAGATTGC CTTGGAAACA AAATATCTCC AACACATGGC TGACATTGTTG
 TGGGAGATCA GAACACCCCTA AAGAGAGAAT TTAAGGGGAG GGGGAGGAGG ACCTGAGCCA GAGTAGAAGC
 AGAGATCAGG GAGATCTGTT CTTGGGGACA GCATTTGCAA GAAACAAGGC TGAGGGGTCC ACTCCAACCT
 20 CTCCACCTG CTGCAGGTGC TGCCATGAT TGCCGCACTC AGCAGGCATC TTTCTGATGA TCCGATGGCT TCTCAGAGCC
 ACTGGACCTA TAGTTTCCAA TTCCGCACTC ACTGTCTTGC TGAGAAATTT ATAAGCAGCA TCTGGTGCTA
 AGGGATGGGC CAGGATCCAT CCCCTTGGCT ACTGTCTTGC TGAGAAATTT ATAAGCAGCA TCTGGTGCTA
 TACTTTGGTC TCTA/TGTAGT TAGCTCATGA AAGATGATAG ACTCTCCAAG CCAGGGGTAT GCAGGAAATG
 GGTTTTCTGT AGCTACAGAA ATGGGGTTGA GGGTTGAGC AAGGGACTAC CCAGGGGAAG TCTTACCTTC
 25 AGAGGACTCT GGA/AGGAGG CTGCAAGTTT TCATGGGTCA AGAATTCAGA GCCCAGTAGA GACAGCTTAT
 CTCTGTTCCA AGATCTCTGG GGCCTTGGTT GGAAGATTCA AAGGCTAGGA AACCAGGAGC CACCAAAAAGC
 GTAACCTGGG CCAGAGGATC CACTTTCAAG GTGGCAAGTT GGTTCACCCC ATGTGGCTGC TTGAGTATCC
 TCACATGGCG GCTCATATCC TTCCAAGTAA GCAATGCAAA AGGCCAAGAA AGATGCTGCA AAGATGTTAT
 GACCTAGCCT CAG³AATCAC ACACCATCCC TGCCACCATT AGTAAGAAGT CCAGCCCACG TCCAGGAGAA
 30 GAGGAAGCAG ATTCTCTCCT TTGAAATGAA GAATATCAAG TAATTCGGGG GGCATATGAA AGCCACCACA
 CACCACAGGG ATCTTTTTAG AGCATACTTC TTATACCATC ACTGTAGTTC CTTAAGACTC AGGGGCAAAG
 CCTCACTTCC TTAGCACCCA GTGAAGACCA CGCTTACTCC CTCACTCAAC CTCTTGCTAC TTCCCACCTC
 TCCTGTCCAA CATCTAGTGT CACTTTCCAG AACATACCAA CAGCTTCCCC AGTTCTGTGC CTCTGCTCAG
 GCTGTTCCCG CTGCTGTGTC CACTTGTCTC CCTTCTTGTC CGGTCAAAAT GCTTCTTATC CTTCAAGACC
 35 CTGCTCTAGA GTCA/CCTCCA ACCCCTTACC CACCAGCCCC CTCTCCAAGT CTGTGTCCCA CAACCCCCCT
 GCTCCCTCCA GGGCACCTC CACCCTCTGG GCCACAGTTG TCAGGAGTCA GGCAGGGCAG GGGCCGGGTG
 GTGTCTTCTT TGTG/TCTTG CACTCAGGGC AGAGCTCAGC ACAGAGCAGA CGCTCAAAAA ACATTTAAAG
 GATAGAAGCA TTGA/TTTGTG GGTCCCCCAG TCTGGCTCCA GGATGCCAGC CAGCTGCTCC TAGAAGCAAA
 40 CGGACTTTTC CTGGGAAATC CCAGAGGTGA TGATCAGTAA TCTCTCCCGT GACTCGTAGT TCAGCTCTTC
 CTCCATGAGC CTGA/CTATCA GTGGACCTTC CAGAAAGAGC CCCTTTTCCT TCTCTACCC ACAGCACAGG
 GCACTGGGAA AATGCCCAAT GAGTCTGCCC TCTGGGTTGT GCTTTGGACT TTTCAGTGTG TCTCGCATCC
 ACTCTTCAAC TTGAATGTG CAACAGCCAT GAAAAAGAA ATGCAAAGCG ATTCAGGATG AGAGCAATAC
 CCTACTCCAA AGAAGGCAAC ATAGAAGCTC AGAGAGATCA AGCAATTTGC CCAAGACCAC ACAGTAGGA
 45 GTGGAACCTA TGGCTGTCCA AGCCCCATGC CTCTGCTGAA GGTAGAGATG AATTACAGCA ACAAGTCTAG
 AAAGGTGCCT GCCCTATGGT CTGTGAGTCT TGCCTAAGAA TGAAAGAGGA GCCAGTGGGT TAAAGATGAG
 GTCACCAACA ACGCTGGTGT TGGAGTTTAC CACTGATAAT AAGGGTGCAA AATGTAAATT ACTAATGTTT
 ATTGAGCCTA GTGCAGTGCG TGGGGCATT TGCACATTGT CTCTGATCCC TATGACAACC CTGAGAGGTA
 GTGGTTTAA CTGCCATGTT ACAGGTGAGG TCATTGTGGT TCAAGGACGT TAAGTAACTT CCCCAGCGTG
 50 ACACGGCTTA TAACTAAGGC AGCCAGGATG TGAACCCAGT AGGACTATCT GGCTGCAAAG TCCCACCCCC
 CCTCGCCATC TGTA/CTCTCC AATCACTTCA GTGCTTTGCT GCATAGAAGG TAACGGAAT CACGATGCCA
 CAGACTGTCC AGGAAGACAG AAACCTAGGCA GATGGGCTGG CCATGGTCTC CAAGCCAGAC TGAATCTCC
 AGGTCTGGAA TGA/TATCAT TTTCTCTTTT AATAAATTAA CTCACCCACC ACACGGCTTT GAGAGGCTCA
 AAGTTGACCA ACTCCCTTGG GAGGGCCCCG GTTGATAAGG AAGGAACGTG AATCCTCCCA TCACGGAAGC
 55 TTCAAGGAGG TCA/AGGTCC AACACTTGAG ATTGTTAGTG CTGTTGGTGG ATACTGGCCA AGGAAATATC
 CCAGTGGAGC CTCGAGATGA AGAACATGAG GCCCCCGTTT AGAACCAAGG ATCAGAGGGG GCTCTGTAAG
 ACCCAGGGGA GTCA/GGTGCA CTGGAGCGCG GGCATGCAGA AAACAGCCTG AGCTCCACCT CGGCTTCTCC
 TTGTCTGGC TGGTGTCTCT TAACCCCTGT CTCCTTCTGG ACCAGTTTTT GTCTTCTCCT TGTGACCGCT
 GAGGGGTAAAC AGCTCTTTTC CAGCGCCGAC ATGCTCAATG TCACCTTGCA AGGGCCCACT
 60 CTTAACGGGA CCTTGTCCCA GAGCAAAATGC CCCCAGGTGG AGTGGCTGGG CTGCTCAAC ACCATCCAGC
 CCCCCTTCTC CTGGGTGCTG TTCGTGCTGG CCACCCTAGA GAACATCTTT GTCTCAGCG TCTTCTGCCT
 GCACAAGAGC AGCTGCACGG TGGCAGAGAT CTACCTGGGG AACCTGGCCG CAGCAGACCT GATCCTGGCC
 TGCGGGCTGC CCTCTGGGC CATCACCATC TCCAACAAC TCGACTGGCT CTTTGGGGAG ACGCTCTGCC

0943679-040400
 0943679-040400

[illegible]

5	TTGGTGGATA	CTGC AGAATA	TCCAGTGGAG	CCTCAGATGA	AGAACATGAG	GCCCCGTTTA	GATCCAAGGA
	TCAGAGGGGG	CTCTGTAAAG	CCCAGGGGAG	TCAGGTGCAC	TGGAGCGCGG	GCTGCAGAAA	ACAGCCTGAG
	CTCCACCTCG	GCTTCTCCTT	GCCCTGGCTG	GTTGTCTTTA	ACCCCTGTCT	CCTTCTGGAC	CAGTTTTTGT
	CCTTCCCTTG	TGACCTGAGG	GGTAACAGCC	TCTTTTCCAC	TTTCTTTCAG	CGCCGACATG	CTCAATGTCA
	CCTTGCAAGG	GCCCCTCTTT	AACGGGACCT	TGCCCCAGAG	CAAATGCCCC	CAAGTGGAGT	GGCTGGGCTG
10	GCTCAACACC	ATCCAGCCCC	CCTTCTCTG	GGTGCTGTTT	GTGCTGGCCA	CCCTAGAGAA	CATCTTTGTC
	CTCAGCGTCT	TCTGCCTGCA	CAAGAGCAGC	TGCACGGTGG	CAGAGATCTA	CCTGGGGAAAC	CTGGCCGCGAG
	CAGACCTGAT	CCTGCGCTGC	GGGCTGCCCT	TCTGGGCCAT	CACCATCTCC	AACAACCTCG	ACTGGCTCTT
	TGGGGAGACG	CTCTGCCGCG	TGGTGAATGC	CATTATCTCC	ATGAACCTGT	ACAGACGCAT	CTGTTTCTCG
	ATGCTGGTGA	GCACTGACCG	CTACCTGGCC	CTGGTGAAAA	CCATGTCCAT	GGGCCGGATG	CGCGGCGTGC
15	GCTGGGCCAA	GCTCTACAGC	TTGGTGATCT	GGGGGTGTAC	GCTGCTCCTG	AGCTCACCCA	TGCTGGTGT
	CCGACCATG	AAGGAGTACA	GCGATGAGGG	CCACAACGTC	ACCGCTTGTG	TCATCAGCTA	CCCATCCCTC
	ATCTGGGAAG	TGTTACACAA	CATGCTCCTG	AATGTCGTGG	GCTTCCTGCT	GCCCCTGAGT	GTCATCACCT
	TCTGCACGAT	GCACATCATG	CAGGTGCTGC	GGAACAACGA	GATGCAGAAG	TTCAAGGAGA	TCCAGACGGA
	GAGGAGGGCC	ACGJTGCTAG	TCTGTGTTGT	GCTGCTGCTA	TTTATCATCT	GCTGGCTGCC	CTTCCAGATC
20	AGCAGCTTCC	TGGATACGCT	GCATCGCTCT	GGCATCCTCT	CCAGTGCCCA	GGACGAGCGC	ATCATCGATG
	TAATCACACA	GATCGCCTCC	TTCATGGCCT	ACAGCAACAG	CTGCCTCAAC	CCACTGGTGT	ACGTGATCGT
	GGGCAAGCGC	TTCCGAAAGA	AGTCTTGGGA	GGTGTACCAG	GGAGTGTGCC	AGAAAGGGGG	CTGCAGGTCA
	GAACCCATTC	AGATGGAGAA	CTCCATGGGC	AACTGCGGA	CCTCCATCTC	CGTGGAAACG	CAGATTCACA
	AACTGCAGGA	CTGCGCAGGG	AGCAGACAGT	GAGCAAACGC	CAGCAGGGCT	GCTGTGAATT	TGTGTAAGGA
25	TTGAGGGACA	GTTGCTTTTC	AGCATGGGCC	CAGGAATGCC	AAGGAGACAT	CTATGCACGA	CCTTGGGAAA
	TGAGTGTGTA	TGTTCCGGT	AAAAACCCGG	AGACTAATTC	CTGCCCTGCC	CAATTTTCGA	GGGAGCATGG
	CTGTGAGGAT	GGGTGAACCT	CAGCACAGC	CAAGGACTCC	AAAATCACAA	CAGCATTACT	GTTCTTATTT
	GCTGCCACAC	CTGAGGCCAG	CTGCTCCTTC	CCAGGAGTGG	AGGAGGCCTG	GGGGAGGGAG	AGGAGTGACT
	GAGCTTCCCT	CCCCGTGTGT	CTCCGTCCCT	GCCCCAGCAA	GACAACTTAG	ATCTCCAGGA	GAAGCTGCCAT
30	CCACGTTTGG	TGCAATGGCT	GAGTGCACAA	GTGAGTTGTT	GCCCTGGGTT	TCTTTAATCT	ATCAGCTAGA
	ACTTTGAAGG	ACAATTTCTT	GCATTAATAA	AGGTAAAGCC	CTGAGGGGTC	CCTTGATAAC	AACCTGGAGA
	CCAGGATTTT	ATGGCTCCCC	TCACTGATGG	ACAAGGAGGT	CTGTGCCAAA	GAAGAATCAA	TAAGCACATA
	TGAGCACTTC	TGTAATATCAG	TATTGAGCAC	TGTAGGCA	ATGTTCTCTC	CCTGGAAGAT	ATCAATGTTT
	CTGTCTGTTT	GTGAGGACTC	CGTGCCCCACC	ACGGCTCTTT	TCAGCGCCGA	CATGCTCAAT	GTCACTTTCG
35	AAGGGCCCTC	TCTTAAACGG	ACCTTTTGCC	AGAGCAAATG	CCCCAAAGTG	GAGTGGCTGG	GCTGGCTAAC
	CACCATCCAG	CCCCCTTTCC	TCTGGGTGCT	GTTCTGTGCT	GCCACCTTAG	AGAACATCTT	TGTCCTCAGC
	GTCTTCTGCC	TGCAAAAGAG	CAGCTGCACG	GTGGCAGAGA	TCTACCTGGG	GAACCTGGCC	GCAGCAGACC
	TGATCCTGGC	CTGCGGGCTG	CCCTTCTGGG	CCATCACCAT	CTCCAACAAC	TTGACTGGC	TCTTTGGGGA
	GACGCTCTGC	CGCTGGTGTA	ATGCCATTAT	CTCCATGAAC	CTGTACAGCA	GCATCTGTTT	CCTGATGCTG
40	GTGAGCATCG	ACCCCTACCT	GGCCCTGGTG	AAAACCATGT	CCATGGGCCG	GATGCGCGGC	GTGCGCTGGG
	CCAAGCTCTA	CAGCTTGGTG	ATCTGGGGGT	GTACGCTGCT	CCTGAGCTCA	CCCATGCTGG	TGTTCCGGAC
	CATGAAGGAG	TACAGCGATG	AGGGCCACAA	CGTACCCTGT	TGTTGTCATCA	GCTACCCATC	CCTCATCTGG
	GAAGTGTTCA	CCAATCATGT	CCTGAATGTC	TGTGGCTTCC	TGTGCCCCCT	GAGTGTATC	ACCTTCTGCA
	CGATGCAGAT	CATGCAGGTG	CTGCGGAACA	ACGAGATGCA	GAAGTTCAAG	GAGATCCAGA	CGGAGAGGAG
45	GGCCACGGTG	CTAGTCTCTG	TTGTGCTGCT	GCTATTATC	ATCTGCTGGC	TGCCCTTCCA	GATCAGCACC
	TTCCTGGATA	CGCTGCATCG	CCTCGGCATC	CTCTCCAGCT	GCCAGGACGA	GCGCATCATC	GATGTAATCA
	CACAGATCGC	CTCCTTCATG	GCCTACAGCA	ACAGCTGCCT	CAACCCACTG	GTGTACGTGA	TCGTGGGCAA
	GCGCTTCCGA	AAGAAGTCTT	GGGAGGTGTA	CCAGGGAGTG	TGCCAGAAAG	GGGGCTGCAG	GTCAGAAACC
	ATTCAGATGG	AGAACTCCAT	GGGCACACTG	CGGACCTCCA	TCTCCGTGGA	ACGCCAGATT	CACAAATCAG
50	AGGACTGGGC	AGGGAGCAGA	CAGTGAGCAA	ACGCCAGCAG	GGCTGCTGTG	AATTTGTGTA	AGGATTGAGG
	GACAGTTGCT	TATGTTCTCT	CCTGGAAGAT	ATCAATGTTT	CTGTCTGTTT	TGTGAGGACT	CGTGCCCAAC
	ACGGCTCTTT	TCAGCGCCGA	CATGCTCAAT	GTCACCTTGC	AAGGGCCAC	TCTTAACGGG	ACCTTTGCC
	AGAGCAAATG	CCCCAAGTG	GAGTGGCTGG	GCTGGCTCAA	CACCATCCAG	CCCCCTTCC	TCTGGGTGCT
	GTTCTGTGCT	GCCACCTAG	AGAACATCTT	TGTCTCAGC	GTCTTCTGCC	TGCACAAGAG	CAGCTGCACG
55	GTGGCAGAGA	TCTACTCTGG	GAACCTGGCC	GCAGCAGACC	TGATCCTGGC	CTGCGGGCTG	CCCTTCTGGG
	CCATCACCAT	CTCCAACAAC	TTGAGTGGC	TCTTTGGGGA	GACGCTCTGC	CGCGTGGTGA	ATGCCATTAT
	CTCCATGAAC	CTGTACAGCA	GCATCTGTTT	CCTGATGCTG	GTGAGCATCG	ACCGCTACCT	GGCCCTGGTG
	AAAACCATGT	CCATGGGCCG	GATGCGCGGC	GTCGCTGGG	CCAGACTCTA	CAGCTTGGTG	ATCTGGGGGT

[illegible]

	AGTATTAGAA	TGAAGTCAAA	CTGTGCCACA	CATGGTGAAT	GAAAAAAAAA	AAAAAGAGGC	TGTGTTTTGT
	CACACAGGGC	AGTCATTAG	CACCAGAGCA	CGTGATGGTC	TGAGACTCTC	TTAGGAGCAG	AGCTCTGCCG
	CAATGGCCAT	GTGCGGATCC	ACACCTGGTC	TGAGGGGCAA	CTGAGTCTGC	GGGAGAAGAG	CGGCCCTATG
	CATGGTGTAG	ATGCCCTGAT	AAAGAACATC	TGTCTGTGA	AAGACTCAAT	GAGCTGTTAT	GTTGTAACA
5	GGAAGCATTT	CACATCCAAA	CGAGAAAATC	ATGTAAACAT	GTGTCTTTTC	TGTAGAGCAT	AATAAATGGA
	TGAGGTTTTT	GCAAAAAAAA	AAAAAAAAAA	AAATGATAGA	CCGTCAATAA	TTTGTTAAAT	GCTTTTTAAA
	ATGAATGCTT	TAACCCGGGT	GCAGTGCCTC	ACATCTGTAA	TCCCGACAT	TTGGAGCCGA	GCGGGTGGAT
	TGTGTGAGGT	CAGCAGGTCG	AGACCAACCT	GGCCAAACATG	GCAAAACCTC	ACTCTCTACC	AAAAATACAA
	AAATTAGCCA	GGCATTGGTG	CAGGCACCTG	TGATCCCAGC	TACTCAGGAG	CGTGTAGACAG	GAGAATCGCT
10	TGAACCCGGG	AGGCAAGGTT	GCAGTGAGCC	AAGATTACGC	CATTGTACTC	CAGCCTGGGT	GACAGAGAGA
	GACTCCGTCT	CAAAAAAAAA	AAAAAAAAAA	AAAAAATTAC	GCTTCAAACA	CATGATCTCT	CACCACTGT
	GAATTTTCTT	TCTATGAGCC	CAGGAGGGCC	TCTCAGAGAG	GAAAGCTCCT	AGGTCTTCCT	TTCCCTCTGC
	AAACTCCCTG	CCTTGAAGGT	TCAGAAGGAC	TGTGCGTGCT	CGTTGCATCC	TTTGCAAGTG	TCCAAACCTC
	GATCCCAGCT	GTGCTTAGGG	GTTCCTGCAA	ACCTTTTCCA	GGTGTTAATT	ACCTCCCACT	TCATTTCTCTG
15	TTTACCAACT	CAGCTTTTTT	TTTTAGTGTT	TTTGAATTC	CTGAAGTAC	CGTTGTCTGA	TCTCCACCTC
	CCAACCTGAAT	TAGCGGAGCT	GGGCTTCTGG	AAACCCAGGT	GCCGGGTGTT	GCAGAGTGGC	TGAAAGCTGG
	GATGTGGCAG	ATCCGTGGCT	ACATTCATGC	ACACACACAC	ACCCACATAC	CCACACATGC	ACACACACAC
	ACACACCCGC	ACTCACACAC	TTGGACATGC	ATAGACCACA	GCTTTCCACA	CCCTTCCTAG	ACAGGGGTCA
	CTTGGTATCC	TGGAGAGAGT	GTGAAGTCCT	GGAATGGAAA	GAGGGGGGAT	TAAGCCCCAC	CTCTAGCCAT
20	GGGACTGAGA	CAAGTCACCA	CCAACCCATC	TGCGCCTTGT	TTACCTCCTC	TGTGAGGCAA	GCACAGAGCC
	CATGCCTGCC	CCCCTGGATG	GGAGTGATGT	GAAACTTGAA	GGGCGGTCAG	AGCAAGGGTC	GGGAATGGAA
	GGCCCTTGGG	AAAAGAGGCC	CTTTCAACTA	GGGGCACAGA	GGAGGCCCTG	GGCTGAGAAC	TTGACAGCAC
	CTTGTAATGT	TGAAGCCAAG	CCCGAAGGGA	CTGGAAATAC	TCAGATGTGT	CTGTCTCCCT	TATTAGGTTT
	AAAGTCCCTC	AAGACCTGT	CTCCATCACA	GTGTCTCAGT	CAGACCCCT	CCTCTGAGCT	CCAGACCTCG
25	CTGGACCCAA	CCAGCCCTAT	GGGGTCGCAT	CCCCACCTGC	CTGGAATTCT	CCAAAGAACC	TCCCCTTTAA
	CAGTTCACGC	CTTAAACAGT	TCCAGTCTAA	ACACATGACC	TTTCTCTCT	AAATCAGCCC	CCCATCTCTG
	CCTTTGCAGG	AGATGGAAGC	CATGACACCT	GCCTCGCCCC	TGTCCTCACC	CCATCCATGT	CCAATCAAGC
	ACTAGGCATG	TCACGTTTAC	CCTCTAAACT	CCTCTGGAAT	CCAGTCTCTC	AGTCTCCATC	ATCCCAGGTC
	GAAGCTAATG	GGCTAACTGG	TCCTTGCTTC	CACTCTACCC	CCACTGCAGT	CCTGACTTCC	TGAGCAGCAG
30	CCAGGGCCTA	ATCCATATTC	ACACCAAGCG	CCAACCTGAC	TGAGATATCC	TCCTGCACCA	TCATCCCTCC
	ACCTCTTTTA	TTCTGTCTCA	CCCTCAGTGT	TCTCATCAAT	AATCCACTCC	CCTCAGAGCG	GCGTTTGGGA
	CCCCATGTTT	TATGCTCTCA	CAGGACCTTT	TGCTTGATTT	TTCACTGTAC	TTAGGTCAGT	TTGCAATTAT
	TAAGTGACTG	AGCATATGCT	GGCTTCTCCA	GTAGACTGTC	AGTCTCTAGC	CATTGTATAC	CTAGCACCAG
	TGTGTGGGAG	CACCTGACAA	ACGTCCAGTG	AGTCAGGGAC	TCAGCAGTCT	CCATTTCTCC	GCCCTGCTGG
35	AGAAATGCGTG	TATTTGGCAA	TCCCCAGCCC	CTGTGCCATC	TAACCATCTT	TTCTTCTCTG	TTCAGCCCAG
	GTGTGGCCTC	ACTCACATCC	CACTCTGAGT	CCAAATGTTT	TCTCCCTGGA	AGATATCAAT	GTTTCTGTCT
	GTTTCGTGAG	ACTCCGTGCC	CACCAAGGCC	TCTTTCAGGT	GAGTCAAAGG	GATTCTCTCAG	TTCACTAGTT
	AGGGAGGGTG	GGCAGACACC	CTGGAGAACT	CCCTGGAAAG	CTCAACTCTC	ATGCCCCGGA	CAACAGTTGA
	AGGAACCATG	GTGATGTATA	GCCCCAAGAC	AAACACTCTC	AGGTGTCCAA	TGCTCTGTTG	GAATCTTGGG
40	AGCAGAGGGA	ATGTTCTGTG	GTCTAGAGGA	AGAGGGGCTC	AGGGAGGAGA	AGGGCACATT	CCTGTTTGTT
	ATATGTTTCT	ATCTATCCCA	GATGAACTTG	GAAGTGAAGG	GAAGAGAGTT	AAACATTAAA	GTAAATACCC
	AGTGGATCAG	ACACCAATGT	GCCAGATTGC	CTTGGAAACA	AAATATCTCC	AACACATGGC	TGACATTTGG
	TGGGAGATCA	GAACACCTTA	AAGAGAGAAT	TTAAGGGGAG	GGGGAGGAGG	ACCTGAGCCA	GAGTAGAAGC
	AGAGGATAGG	GAGATCTGTT	CTTGGGGACA	GCATTTGCAA	GAAACAAGGC	TGAGGGGTCC	ACTCCAACCT
45	CTCCACCCCT	CTGCAAGTGC	TGCCTATGAT	GAAGATGAGC	AGATGGCCAT	CTCAGCTGGG	GCCACAGTGC
	ACTGGACCTA	TAGTTTCCAA	TTCCGCATCT	AGCAGGCATC	TTTCTGATGA	TCCGATGGCT	TCTCAGAGCC
	AGGGATGGGC	CAGGATCCAT	CCCCTTGGCT	ACTGTCTTGC	TGAGAAATTT	ATAAGCAGCA	TCTGGTGCTA
	TACTTTGGTC	TCTAGTGAGT	TAGCTCATGA	AAGATGATAG	ACTCTCCAAG	CCAGGGGTAT	GCAGGAAATG
	GGTTTTCTGT	AGCTACAGAA	ATGGGGTTGA	GGGTGGGACC	AAGGGACTAC	CCAGGGGAAG	TCTTACCTTC
50	AGAGGACTCT	GGAAAGGAGG	CTGCAAGTTT	TCATGGGTCA	AGAATTCAGA	GCCCAGTAGA	GACAGCTTAT
	CTCTGTTCCA	AGATTTCTGG	GGCCTTGGTT	GGAAGATTCA	AAGGCTAGGA	AACCAGGAGC	CACCAAAAGC
	GTAACCTGGG	CCACAGGATC	CACTTTCAAG	GTGGCAAGTT	GGTTCCCCC	ATGTGGCTGC	TTGAGTATCC
	TCACCTGGCG	GCTCACATCC	TTCCAAGTAA</				

GATAGAAGCA TTGA/TTTGTG GGTCCCCCAG TCTGGCTCCA GGATGCCAGC CAGCTGCTCC TAGAAGCAAA
 CGGACTTTTC CTGC/GAAATC CCAGAGGTGA TGATCAGTAA TCTCTCCCGT GACTCGTAGT TCAGCTCTTC
 CTCATGAGC CTGA/CTATCA CTGGACCTTC CAGAAAGAGC CCCTTTTCCT TCTCTCACC ACAGCAGAGG
 5 GCACTGGGAA AATG/CCCAAT GAGTCTGCC TCTGGGTTGT GCTTTGGACT TTTCACTGTG TCTCGCATCC
 ACTCTTCAAC TTGAATGTG CAACAGCCAT GAAAAAGAA ATGCAAAGCG ATTCAAGGATG AGAGCAATAC
 CCTACTCCAA AGA/GGCAAC ATAGAAGCTC AGAGAGATCA AGCAATTTGC CCAAGACCAC ACAGCTAGGA
 GTGGAAGTCA TGGCTGTCCA AGCCCATGTC CTCTGCTGAA GGTAGAGATG AATTACAGCA ACAAGTCTAG
 AAAGGTGCCT GCC/TATGGT CTGTGAGTCT TGCTTAAGAA TGAAAGAGGA GCCAGTGGGT TAAAGATGAG
 10 GTCACCAACA ACGGTGGTGT TGGAGTTTAC CACTGATAAT AAGGGTGCAA AATGTAAATT ACTAATGTTT
 ATTGAGCCTA GTG/AGTGCG TGGGGCATT TGCACATTGT CTCTGATCCC TATGACAACC CTGAGAGGTA
 GTGGTTTAA CTGC/CATT ACAGGTGAGG TCAATTGTGT TCAAGGACGT TAAGTAACTT CCCCACGGTG
 ACACGGCTTA TAAC/TAAGG AGCCAGGATG TGAACCCAGT AGGACTATCT GGCTGCAAAG TCCCCACCCC
 CCTCGCCATC TGTATCTCC AATCACTTCA GTGCTTTGCT GCATAGAAGG TAACGGAAAT CACGATGCCA
 CAGACTGTCC AGG/AGACAG AAAGTAGGCA GATGGGCTGG CCATGGTCTC CAAGCCAGAC TGGAATCTCC
 15 AGGTCTGGAA TGA/ATCATT TTTCTCTTTT AATAAATTAA CTCACCCACC ACACGGCTTT GAGAGGCTCA
 AAGTTGACCA ACT/CCTTGG GAGGGCCCCG GTTGATAAGG AAGGAACGTG AATCTCCCA TCACGGAAGC
 TTCAAGGAGG TCA/GGGTCC AACACTTGAG ATTGTTAGTG CTGTTGGTGG ATACTGGCCA AGGAAATATC
 CCAGTGGAGC CTCC/AGATGA AGAACATGAG GCCCCGTTT AGAACCAAGG ATCAGAGGGG GCTCTGTAAG
 ACCCAGGGGA GTCA/GGTGCA CTGGAGCGCG GGCATGCAGA AAACAGCCTG AGCTCCACCT CGGCTTCTCC
 20 TTGTCTGGC TGGTGTCTCT TAACCCCTGT CTCCTTCTGG ACCAGTTTTT GTCTTCCCT GTTGACCGCT
 GAGGGGTAAC AGC/CTTTTC CACTTTCTTT CAGCGCCGAC ATGCTCAATG TCACCTTGCA AGGGCCCACT
 CTTAACGGGA CCTT/GCCCA GAGCAAATGC CCCCAAGTGG AGTGGCTGGG CTGGCTCAAC ACCATCCAGC
 CCCCTTCTCT CTGGGTGCTG TTCGTGCTGG CCACCCTAGA GAACATCTTT GTCTCAGCG TCTTCTGCCT
 25 GCACAAGAGC AGC/GCACGG TGGCAGAGAT CTACCTGGGG AACCTGGCCG CAGCAGACCT GATCCTGGCC
 TGCGGGCTGC CCT/CTGGGC CATCACCATC TCCAACAAT TCGACTGGCT CTTTGGGGAG ACGCTCTGCC
 GCGTGGTGAA TGCC/ATTATC TCCATGAACC TGTACAGCAG CATCTGTTTC CTGATGCTGG TGAGCATCGA
 CCGCTACCTG GCCCTGTGA AAACCATGTC CATGGGCCGG ATGCGCGGCG TGCGTGGG CAAGCTCTAC
 AGCTTGGTGA TCTG/GGGTG TACGCTGCTC CTGAGCTCAC CCATGCTGGT GTTCCGGACC ATGAAGGAGT
 30 ACAGCGATGA GGG/CACAAC GTCACCGCTT GTGTCATCAG CTACCCATCC CTCATCTGGG AAGTGTTCAC
 CAACATGCTC CTG/ATGTCG TGGGCTTCTT GCTGCCCCTG AGTGTCTCA CCTTCTGCAC GATGCAGATC
 ATGCAGGTGC TGCGGAACAA CGAGATGCAG AAGTTCAAGG AGATCCAGAC GGAGAGGAGG GCCACGGTGC
 TAGTCTGGT TGTC/CTGCTG CTATTTCATCA TCTGCTGGCT GCCCTTCCAG ATCAGCACCT TCCTGGATAC
 GCTGCATCGC CTC/GGCATCC TCTCCAGCTG CCAGGACGAG CGCATCATCG ATGTAATCAC ACAGATCGCC
 35 TCCTTCATGG CCTACAGCAA CAGCTGCCTC AACCCTAGT TGTACGTGAT CGTGGGCAAG CGCTTCCGAA
 AGAAGTCTTG GGAC/GGTAC CAGGAGTGT GGCAGAAAG GGGCTGCAGG TCAGAAACCA TTCACTGGA
 GAACTCCATG GGC/CACTGC GGACCTCCAT CTCCGTGGAA CGCCAGATT ACAAACTGCA GGACTGGGCA
 GGGAGCAGAC AGTGAGCAAA CGCCAGCAGG GCTGCTGTGA ATTTGTGTAA GGATTGAGGG ACAGTTGCTT
 TTCAGCATGG GCCCAGGAAT GCCAAGGAGA CATCTATGCA CGACCTTGGG AAATGAGTTG ATGTCTCCGG
 40 TAAACACCG GAG/CCTAATT CCTGCCCTGC CCAATTTTGC AGGGAGCATG GCTGTGAGGA TGGGGTGAAC
 TCACGCACAG CCA/GGACTC CAAAATCACA ACAGCATTAC TGTCTTATT TGCTGCCACA CCTGAGCCAG
 CCTGCTCTT CCA/GGAGTG GAGGAGGCCT GGGGGCAGGG AGAGGAGTGA CTGAGCTTCC CTCCCCTGTG
 TTCTCCGTCC CTGC/CCAGC AAGACAATT AGATCTCCAG GAGAACTGCC ATCCAGCTTT GGTGCAATTG
 45 CTGAGTGCAC AAG/GAGTTG TTGCCCTGGG TTTCTTTAAT CTATTGAGCT AGAACTTTGA AGGCAATTT
 CTTGCATTAA TAAAGGTTAA GCCCTGAGGG GTCCCTGATA ACAACCTGGA GACCAAGATT TTATGGCTCC
 CCTCACTGAT GGACAAGGAG GTCTGTGCCA AAGAAGAATC CAATAAGCAC ATATTGAGCA CTTGCTGTAT
 ATGCAGTATT GAGCACTGTA GGCAAGAGGG AAGAAAGAGA AGGAGCCATC TCCATCTTGA AGGAACTCAA
 AGACTCAAGT GGG/ACGACT GGGCACTGCC ACCACCAGAA AGCTGTTCA TGAGACGGTC GAGCAGGGTG
 CTGTGGGTGA TATGGACAGC AGAAGGGGGA GCCAGGTTCC AGCTCACCAA TACTATTGCA CACCACCTGT
 50 CCTGCCCTC TGATCTATC ACAACCTGAG AGTAGTTTTT ACTCCATTTA CAGGTGAGGT CATTGTGGTT
 CAAGGACGTT AAGTAACTTC CCCAGCTCAC ACGGCTTATA AGTAAGGCAG CCAGGATGTG AACCCAGTAG
 GACTATCTGG CTGC/AAAGTC CCCACCTCC CTCGCCATCT GTATCTCCA ATCATCTTCA GTGCTTTGCT
 GATAGAAGGT ACG/AAATAC GATGCCACAG ACTGTCCAGG AAGACAGAAA CTAGGCAGAT GGGCTGGCCA
 TGGTCTCAA GCC/GACTGG AATCTCCAGG TCTGGAATGA TATCATTTT CTCTTTTAAT AAATTAACCTC
 55 ACCCACCACA CGGCTTGAG AGGCTCAAAG GTGACCAACT CCCTTGGGAG GGCCCCGTT GATAAGGAAG
 GAATGTGAAT CCT/CCATCA CGGAAGCTTC AAGGAGGTCA AGGGTCCAAC ACTTGAGATT GTTAGTGCTG
 TTGGTGGATA CTGCAGAATA TCCAGTGGAG CCTCAGATGA AGAACATGAG GCCCCGTTA GATCCAAGGA
 TCAGAGGGGG CTCTGTAAGA CCCAGGGGAG TCAGGTGCAC TGGAGCGCGG GCTGCAGAAA ACAGCTGAG
 60 CTTACCTCG GCT/CTCCTT GCCCTGGCTG GTTGCTCTTA ACCCTGTCT CTTCTGGAC CTTCTGGAC
 CCTTCCCTTG TGACCTGAGG GGTAACAGCC TTTTTCAC TTTCTTCAG CGCCGACATG CTAAATGTCA
 CCTTGAAGG GCC/ACTCTT AACGGGACCT TTGCCAGAG CAAATGCCCC CAAGTGGAGT GGCTGGGCTG
 GCTCAACACC ATCC/AGCCCC CCTTCTCTG GGTGCTGTT GTGCTGGCCA CCCTAGAGAA CATCTTTGTC
 CTCAGCGTCT TCTG/CTGCA CAAGAGCAGC TGCACGGTGG CAGAGATCTA CCTGGGGAAC CTGGCCGACG

004040 " 62945660

[illegible]

CCGCAGTACC AGGCAGCGAC TGAAGTGCCC ATGCCGCTTG CTCCGGAGAA GGTGGGTGCC GGGCAGGGGC
 TGCTCCAGCC GCCTACCTC TGCTGGGAGG ACAAAGTCTC CCAGCACAGA GGGAGGGAGG GAGGGCAGGC
 AGCGGGGAGA AGTTTCCTG TGGTCGTGGG GAGTT GAGCTCTTCA ATATTTTAGT GAAAGCTATA GATGAGGCTC
 CATAGGGGAT AAAGCACAGA CACACCTTTT CAGAGGGCTT GTGGACTCTG GGCAGCCTGT CCATAGACCT
 5 CTGTCCCCAA CTGGCAAGTC AGGAACTCC AGATTAAGGA GCCCAATGT GGTGGAACAG CCAGGTGCAC
 AGATGAGTCA ACCACACAGC CAGGCCAGGG AGGGCCTTCA CTCAAGAGCC TACAGCCAGT TCACAGCCAA
 GCCAGGGCTA GCGCAGGCC ACCATAAAC TGATCTGAGA CTCTGTTTCC CTGTCTCCAT GATGATGGGA
 TCAGGCTTGA TTGCTGGTTT GTAGGCTTGT TATGAATCAA GTCACAGGGA AGAGGAGCTG ATGGGCTGGG
 GGGACGTCCT CTGGCCCTCC TGTCTCTTCC CCAGATCCAC TGGGCCCACT CTTATCTGTT CTCTCTGAA
 10 GGAAGGGTTT TAAAGCTTCA AAAAAAATG TTTTGAAAGT CCCTGCCCTT TCCAGTCTCT ACCGTCTCAG
 CCCTGGGAGT GTAAGTGCT GCAGATAGTT AGTAAGTCTT TGAGCAAAAC TGAGAAAGCC AGCCTGAGCC
 TTGACATGGG AGAAGCTCC GCCATACATC TCCGAAGAAA CGGCCGCGTG TCTCAGGGGA GCGCAAAAC
 CCGTACCCAG GAAACAGGAC AGCTTCTGCC ACTGTCGCC TTGGGAGCCG TACGTGGCAT GACAAAGAAA
 TCCCAGGACT CCGCTGCCC ACCTGGCCAC CCTCTGTTA CACCTTCCGC GTAAACGCC ACTGTTTACA
 15 TCCAAATCTC AGACACAAA TAACCACCTC AAGAAGATAA ATAATGATAA GAAATAAATG TTACGCGAGG
 CAAATTTATT CACATGGGGC TTCCAGGCC ACTTTGTGGT CAGCCGGGAG GGACGTTTTT GCCGTCCAC
 GACTCCAACG GGCAGCCGG CCTACGCAA CATGGAAATC TTCCAAGAGC CTCCCTGGCC CCCAGGGCTC
 AGAGGGTGGC AGAGCGGAGA GCGAAGGTGG CCGCAGCCTT CCCGGCCCCA CAGCCAGCCT GGCTCCAGCT
 GGGCAGGAGT GCAGAGCTCA GCTGGAGCG AGGGGGAAGT GCCCAGGAGG CTGATGACAT CACTACCCAG
 20 CCCTTCAAAG ATGAGCTGTT CCCGCGCCA TCCAGCTCT GGCTTCTGG CTCCGAGGAG GGGTGGGAC
 GGTGGTGACG GTGCGGACAT CAGGCTGCCC CGCAGTACCA GGGAGCGACT GAAGTGCCCA TGCCGCTTGC
 TCCGGAGAAG GTGCGTGCCG GGCAGGGGCT GCTCCAGCCG CCTCACCTCT GCTGGGAGGA CAACTGTCC
 CAGCACAGAG GGACGGAGGG AGGGCAGGCA GCGGGGAGAA GTTCCCTGT GGTCTGTTGG AGTTGGGAAA
 AGTTCCCTTC CTCCGGAGG GAGG-3' (FRAG. NO:2275) (SEQ. ID NO:3018)
 25 5'- GAGCTCTTCA ATATTTTAGT GAAAGCTATA GATGAGGCTC CATAGGGGAT AAAGCACAGA CACACCTTTT
 CAGAGGGCTT GTGCACTCTG GGCAGCCTGT CCATAGACCT CTGTCCCCAA CTGGCAAGTC AGGAACTCC
 AGATTAAGGA GCCCAATGT GGTGGAACAG CCAGGTGCAC AGATGAGTCA ACCACACAGC CAGGCCAGGG
 AGGGCCTTCA CTCAAGAGCC TACAGCCAGT TCACAGCCAA GCCAGGGCTA GCGCCAGGCC ACCATAAAC
 TGATCTGAGA CTCTGTTTCC CTGTCTCCAT GATGATGGGA TCAGGCTTGA TTGCTGTTT GTAGGCTTGT
 30 TATGAATCAA GTCAAGGGA AGAGGAGCTG ATGGGCTGGG GGGACGTCCT CTGGCCCTCC TGTCTCTTCC
 CCAGATCCAC TGGC CCACT CTTATCTGTT CTCTCTGAA GGAAGGGTTT TAAGGCTTCA AAAAAAATG
 TTTTGAAAGT CCCTGCCCTT TCCAGCTCCT ACCGTCTCAG CCCTGGGAGT GTAAAGTGCT GCAGATAGTT
 AGTAAGTCTT TGAGCAAAAC TGAGAAAGCC AGCCTGAGCC TTGACATGGG AGAAACCTCC GCCATACATC
 TCCGAAGAAA CGGCAGCGTG TCTCAGGGGA GCGCAAAAC CCGTACCCAG GAAACAGGAC AGCTTCTGCC
 35 ACTGTGCCCC TTGGGAGCCG TACGTGGCAT GACAAAGAAA TCCCAGGACT CCGCTGCCC ACCTGGCCAC
 CCTCTGTTA CACCTTCCG GTAAACGCC ACTGTTTACA TCCAAATCTC AGACACAAA TAACCACCTC
 AAGAAGATAA ATAATGATAA GAAATAAATG TTACGCGAGG CAAATTTATT CACATGGGGC TTCCAGGCC
 ACTTTGTGGT CAGCGGGGAG GGACGTTTTT GCCGTCCAC GACTCCAACG GGCAGCCGGG CACTACGAAA
 CATGGAATC TTCCAGAGC CTCCCTGGCC CCCAGGGCTC AGAGGGTGGC AGAGCGGAGA GCGAAGGTGG
 40 CCGCAGCCTT CCGGCCCCA CAGCCAGCCT GGTCCAGCT GGGCAGGAGT GCAGAGCTCA GCTGGAGGCG
 AGGGGGAAGT GCCCAGGAG CTGATGACAT CACTACCCAG CCCTTCAAAG ATGAGCTGTT CCCGCCGCA
 CTCCAGCTCT GGCTCTGGG CTCCGAGGAG GGTGGGGAC GGTGGTGACG GTGGGGACAT CAGGCTGCCC
 CGCAGTACCA GGGAGCGACT GAAGTGCCCA TGCCGCTTGC TCCGAGAGG GTGGGTGCC GGCAGGGGCT
 GCTCCAGCCG CCTCACCTCT GCTGGGAGGA CAACTGTCC CAGCACAGAG GGAGGGAGGG AGGCAGGCA
 45 GCGGGGAGAA GTTTCCTGT GGTCTGTTGG AGTTGGGAAA AGTTCCCTTC CTCCGGAGG GAGG-3'
 (FRAG. NO:2275) (SEQ. ID NO:2461)
 5'- GCCCTTCAAA GATGAGCTGT TCCCGCCGCC ACTCCAGCTC TGGCTTCTGG GCTCCGAGGA GGGGTGGGGA
 CGGTGGTGAC GGTGGGGACA TCAGGCTGCC CCGCAGTACC AGGGAGCGAC TGAAGTGCCC ATGCCGCTTG
 CTCCGGAGAA GGTGGTGCC GGGCAGGGGC TGCTCCAGCC GCCTCACCTC TGCTGGGAGG ACAAAGTCTC
 50 CCAGCACAGA GGAAGGAGG GAGGGCAGGC AGCGGGGAGA AGTTCCCTG TGGTCGTGGG GAGTT-3' (FRAG.
 NO:2275) (SEQ. ID NO:2460)
 5'- GCCCTTCAAA GATGAGCTGT TCCCGCCGCC ACTCCAGCTC TGGCTTCTGG GCTCCGAGGA GGGGTGGGGA
 CGGTGGGGAC ATCAGGCTGC CCCGAGTAC CAGGGAGCGA CTGAAGTGCC CATGCCGCTT GCTCCGAGGA
 AGGTGGGTGC CCGCAGGGG CTGCTCCAGC CGCTCACCT CTGCTGGGAG GACAACTGT CCCAGCACAG
 55 AGGGAGGGAG GGAGGCGAGG CAGCGGGGAG AAGTTCCCT GTGGTCGTGG GGAGTT-3' (FRAG. NO:2275) (SEQ. ID
 NO:2459)
 5'- ATGTTCTCTC CTGGAAGAT ATCAATGTTT CTGTCTGTTG GTGAGGACTC CGTGCCCAAC ACGGCCTCTT
 TCAGCGCCGA CATGCTCAAT GTCACCTTGC AAGGGCCAC TCTTAACGGG ACCTTTGCC AGAGCAAATG
 CCCCCAAGTG GAGTGGCTGG GCTGGCTCAA CACCATCCAG CCCCCCTTCC TCTGGGTGCT GTTCTGTCTG
 60 GCCACCCTAG AGAATCATCTT TGTCTCAGC GTCTTCTGCC TGCAAGAG CAGCTGCACG GTGGCAGAGA
 TCTACCTGGG GAACCTGGCC GCAGCAGACC TGATCTGGC CTGCGGGCTG CCCTTCTGG CCATACCAT
 CTCAACAAC TTCGACTGCG TCTTTGGGA GACGCTCTGC CGCGTGGTGA ATGCCATTAT CTCCATGAAC

CTGTACAGCA GCACTCTGTTT CCTGATGCTG GTGAGCATCG ACCGCTACCT GGCCCTGGTG AAAACCATGT
 CCATGGGCCG GATGCGCGGC GTGCGCTGGG CCAAGCTCTA CAGCTTGGTG ATCTGGGGGT GTACGCTGCT
 CCTGAGCTCA CCCATGCTGG TGTTCGGAC CATGAAGGAG TACAGCGATG AGGGCCACAA CGTACCCGCT
 TGTGTCATCA GCTATCCATC CCTCATCTGG GAAGTGTTCA CCAACATGCT CCTGAATGTC GTGGGCTTCC
 5 TGCTGCCCTT GAGTGTCTATC ACCTTCTGCA CGATGCAGAT CATGCAGGTG CTGCGGAACA ACGAGATGCA
 GAAGTTCAAG GAGATCCAGA CGGAGAGGAG GGCCACGGTG CTAGTCCTGG TTGTGCTGCT GCTATTTCATC
 ATCTGCTGGC TGCCCTTCCA GATCAGCACC TTCCTGGATA CGCTGCATCG CCTCGGCATC CTCTCCAGCT
 GCCAGGACGA GCGCATCATC GATGTAATCA CACAGATCGC CTCCTTCATG GCCTACAGCA ACAGCTGCCT
 CAACCCACTG GTGTACGTGA TCGTGGGCAA GCGCTTCCGA AAGAAGTCTT GGGAGGTGTA CCAGGGAGTG
 10 TGCCAGAAAG GGGGCTGCAG GTCAGAACCC ATTACAGATGG AGAACTCCAT GGGCACACTG CGGACCTCCA
 TCTCCGTGGA ACGCCAGATT CACAACTGC AGGACTGGGC AGGGAGCAGA CAGTGAGCAA ACGCCAGCAG
 GGCTGCTGTG AATTGTGTGA AGGATTGAGG GACAGTTGCT T-3' (FRAG. NO:2275) (SEQ. ID NO:2458)
 5'- ATGTTCTCTC CTTGGAAGAT ATCAATGTTT CTGTCTGTTT GTGAGGACTC CGTGCCACC ACGCCTCTT
 TCAGCGCCGA CATGCTCAAT GTCACCTTGC AAGGGCCAC TCTTAACGGG ACCTTTGCC AGAGCAAATG
 15 CCCCCAAGTG GAGTGGCTGG GCTGGCTCAA CACCATCCAG CCCCCCTTCC TCTGGGTGCT GTTCGTGCTG
 GCCACCCTAG AGAATCATCTT TGTCTCAGC GTCTTCTGCC TGCACAAGAG CAGCTGCACG GTGGCAGAGA
 TCTACCTGGG GAACCTGGCC GCAGCAGACC TGATCCTGGC CTGCGGGCTG CCCTTCTGGG CCATCACCAT
 CTCCAACAAC TTCCACTGGC TCTTTGGGGA GACGCTCTGC CGCGTGGTGA ATGCCATTAT CTCCATGAAC
 CTGTACAGCA GCACTCTGTT CCTGATGCTG GTGAGCATCG ACCGCTACCT GGCCCTGGTG AAAACCATGT
 20 CCATGGGCCG GATGCGCGGC GTGCGCTGGG CCAAGCTCTA CAGCTTGGTG ATCTGGGGGT GTACGCTGCT
 CCTGAGCTCA CCCATGCTGG TGTTCGGAC CATGAAGGAG TACAGCGATG AGGGCCACAA CGTACCCGCT
 TGTGTCATCA GCTATCCATC CCTCATCTGG GAAGTGTTCA CCAACATGCT CCTGAATGTC GTGGGCTTCC
 TGCTGCCCTT GAGTGTCTATC ACCTTCTGCA CGATGCAGAT CATGCAGGTG CTGCGGAACA ACGAGATGCA
 GAAGTTCAAG GAGATCCAGA CGGAGAGGAG GGCCACGGTG CTAGTCCTGG TTGTGCTGCT GCTATTTCATC
 25 ATCTGCTGGC TGCCCTTCCA GATCAGCACC TTCCTGGATA CGCTGCATCG CCTCGGCATC CTCTCCAGCT
 GCCAGGACGA GCGCATCATC GATGTAATCA CACAGATCGC CTCCTTCATG GCCTACAGCA ACAGCTGCCT
 CAACCCACTG GTGTACGTGA TCGTGGGCAA GCGCTTCCGA AAGAAGTCTT GGGAGGTGTA CCAGGGAGTG
 TGCCAGAAAG GGGGCTGCAG GTCAGAACCC ATTACAGATGG AGAACTCCAT GGGCACACTG CGGACCTCCA
 TCTCCGTGGA ACGCCAGATT CACAACTGC AGGACTGGGC AGGGAGCAGA CAGTGAGCAA ACGCCAGCAG
 30 GGCTGCTGTG AATTGTGTGA AGGATTGAGG GACAGTTGCT T-3' (FRAG. NO:2275) (SEQ. ID NO:2457)
 5'- TGATCCTATC ACACCTGAG AGTAGTTTTT ACTCCATTTA CAGGTGAGGT CATTGTGGTT CAAGGACGTT
 AAGTAACTTC CCCAGCTCAC ACGGCTTATA AGTAAAGCAG CCAGGATGTG AACCCAGTAG GACTATCTGG
 CTGCAAAGTC CCCACCTCC CTCGCCATCT GTATCTCCA ATCATCTTCA GTGCTTTGCT GATAGAAGGT
 ACGGAAATAC GATC CCACAG ACTGTCCAGG AAGACAGAAA CTAGGCAGAT GGGCTGGCCA TGGTCTCCAA
 35 CCGAGATGG AATCTCCAGG TCTGGAATGA TATCATTTTT CTCTTTAAT AAATTAACCT ACCCACCACA
 CGGCTTTGAG AGGCTCAAAG GTGACCAACT CCCTTGGGAG GGCCCCGTTT GATAAGGAAG GATGTGAAT
 CCTCCCATCA CGGAAGCTTC AAGGAGGTCA AGGTTCCAAC ACTTGAGATT GTTAGTGCTG TTGGTGGATA
 CTGCAGAATA TCCAGTGGAG CCTCAGATGA AGAACATGAG GCCCGTTTA GATCCAAGGA TCAGAGGGGG
 CTCTGTAAGA CCCAGGGGAG TCAGGTGCAC TGGAGCGCGG GCTGCAGAAA ACAGCCTGAG CTCCACCTCG
 40 GCTTCTCCTT GCCCTGGCTG GTTGCTCTTA ACCCCTGTCT CTTTCTGGAC CAGTTTTTGT CTTTCCCTTG
 TGACCTGAGG GGTACAGCC TCTTTTCCAC TTTCTTTCAG CGCCGACATG CTCAATGTCA CTTTGCAAGG
 GCCCCTCTT AACGGGACCT TTGCCCAGAG CAAATGCCCC CAAGTGGAGT GGCTGGGCTG GCTCAACACC
 ATCCAGCCCC CCTTCTCTG GGTGCTGTTT GTGCTGGCCA CCCTAGAGAA CATCTTTGTC CTCAGCGTCT
 45 TCTGCTGCA CAAGAGCAGC TGCACGGTGG CAGAGATCTA CCTGGGGAAC CTGGCCGAG CAGACCTGAT
 CCTGGCCTGC GGGCTGCCCT TCTGGGCCAT CACCATCTCC AACAACCTCG ACTGGCTCTT TGGGGAGACG
 CTCTGCCGCG TGGTGAATGC CATTATCTCC ATGAACCTGT ACAGCAGCAT CTGTTTCTG ATGCTGGTGA
 GCATCGACCG CTACCTGGCC CTGGTGAAAA CCATGTCCAT GGGCCGATG CGCGGCGTGC GCTGGGCCAA
 GCTCTACAGC TTGGTGATCT GGGGGTGATC GCTGCTCCTG AGCTCACCCA TGCTGGTGTT CCGGACCATG
 AAGGAGTACA GCGATGAGGG CCACAACGTC ACCGCTTGTG TCATCAGCTA CCCATCCCTC ATCTGGGAAG
 50 TGTTACCAA CATGCTCCTG AATGTCGTGG GCTTCTGCT GCTTCTGAGT GCCCTGAGT TGCATCACCT TCTGCACGAT
 GCAGATCATG CAGGTGCTGC GGAACAACGA GATGCAGAAG TTCAAGGAGA TCCAGACGGA GAGGAGGGCC
 ACGGTGCTAG TCTTGGTTGT GCTGCTGCTA TTCATCATCT GCTGGCTGCC CTCCAGATC AGCACCTTCC
 TGGATACGCT GCATCGCCTC GGCATCCTCT CCAGCTGCCA GGACGAGCGC ATCATCGATG TAATCACACA
 GATCGCCTCC TTCAIGGCCT ACAGCAACAG CTGCCTCAAC CCACTGGTGT ACGTGATCGT GGGCAAGCGC
 55 TTCCGAAAGA AGTCTTGGGA GGTGTACCAG GGAGTGTGCC AGAAAGGGGG CTGCAGGTCA GAACCCATTC
 AGATGGAGAA CTCCATGGGC AACTGCGGA CCTCCATCTC CGTGGAACGC CAGATTCACA AACTGCAGGA
 CTGGGACAGG AGCATGACAGT GAGCAAACGC CAGCAGGGCT GCTGTGAATT TGTGTAAGGA TTGAGGGACA
 GTTGCTTTTC AGCATGGGCC CAGGAATGCC AAGGAGACAT CTATGCACGA CCTTGGGAAA TGAGTGTGA
 TGTCTCCGGT AAAACACCGG AGACTAATTC CTGCCTGCC CAATTTTCGA GGGAGCATGG CTGTGAGGAT
 60 GGGGTGAAC CACCACAGC CAAGGACTCC AAAATCACAA CAGCATTACT GTTCTTATTT GCTGCCACAC
 CTGAGCCAGC CTGCTCCTTC CCAGGAGTGG AGGAGGCCTG GGGGAGGGAG AGGAGTGACT GAGCTTCCCT
 CCCGTGTGTT CTCCCTCCCT GCCCCAGCAA GACAACTTAG ATCTCCAGGA GAACTGCCAT CCACGTTTGG

004040 " 6294560

TGCAATGGCT GAGTGCACAA GTGAGTTGTT GCCCTGGGTT TCTTTAATCT ATCAGCTAGA ACTTTGAAAGG
 ACAATTTCTT GCATTAATAA AGGTTAAGCC CTGAGGGGTC CCTTGATAAC AACCTGGAGA CCAGGATTTT
 ATGGCTCCCC TCACGTATGG ACAAGGAGGT CTGTGCCAAA GAAGAATCAA TAAGCACATA TGAGCACTTC
 TGTATATCAG TATTGAGCAC TGTAGGCA -3' (FRAG. NO:2275) (SEQ. ID NO:2456)

5 5'- CTGCAGAAAA CAGCCTGAGC TCCACCTCGG CTTCTCCTTG CCTGCGTGG TTGTCCTTAA CCCCTGTCTC
 CTTCTGGACC AGTTTGTGTC CTTCCCTTGT GACCCTGAGG GGTAACAGCC TCTTTTCCAC TTTCTTTCAG
 CGCCGACATG CTCATGTCA CCTTGCAAGG GCCACTCTT AACGGGACCT TGCCCAGAG CAAATGCCCC
 CAAGTGGAGT GGC'GGGCTG GCTCAACACC ATCCAGCCCC CCTCCTCTG GGTGCTGTTC GTGCTGGCCA
 CCTAGAGAA CATCTTTGTC CTCAGCGTCT TCTGCCTGCA CAAGAGCAGC TGCACGGTGG CAGAGATCTA
 10 CCTGGGGAAC CTGCGCCGAG CAGACCTGAT CCTGGCCTGC GGGCTGCCCT TCTGGGCCAT CACCATCTCC
 AACAACTTCG ACTGCTCTT TGGGGAGACG CTCTGCCGCG TGGTGAATGC CATTATCTCC ATGAACCTGT
 ACAGCAGCAT CTGTTTCCTG ATGCTGGTGA GCATCGACCG CTACCTGGCC CTGGTGAAAA CCATGTCCAT
 GGGCCGGATG CGCGCGGTGC GCTGGGCCAA GCTCTACAGC TTGGTGATCT GGGGGTGATC GCTGCTCTG
 AGCTCACCCA TGCTGGTGT CCGGACCATG AAGGAGTACA GCGATGAGGG CCACAACGTC ACCGCTTGTC
 15 TCATCAGCTA CCCATCCCTC ATCTGGGAAG TGTTCACCAA CATGCTCCTG AATGTCGTGG GCTTCCTGCT
 GCCCTGAGT GTCATCACCT TCTGCACGAT GCAGATCATG CAGGTGCTGC GGAACAACGA GATGCAGAAG
 TTCAAGGAGA TCCAGACGGA GAGGAGGGCC ACGTGCTAG TCCTGGTTGT GCTGCTGCTA TTCATCATCT
 GCTGGCTGCC CTTCCAGATC AGCACCTTCC TGGATACGCT GCATCGCCTC GGCATCCTCT CCAGCTGCCA
 GGACGAGCGC ATCATCGATG TAATCACACA GATCGCCTCC TTCATGGCCT ACAGCAACAG TTGCCTCAAC
 20 CCACTGGTGT ACGTGATCGT GGGCAAGCGC TTCCGAAAAG AGTCTTGGGA AGTGTACCAG GGAGTGTGCC
 AGAAAGGGGG CTGCAGGTCA GAACCCATTC AGATGGAGAA CTCCATGGGC AACTGCGGA CCTCCATCTC
 CGTGGAACGC CAGATTCACA AACTGCAGGA CTGGGCAGGG AGCAGACAGT GAGCAAAACGC CAGCAGGGCT
 GCTGTGAATT TGTGTAAGGA TTGAGGGACA GTTGCTTTTC AGCATGGGCC CAGGAATGCC AAGGAGACAT
 CTATGCACGA CCTTGGGAAA TGAGTTGATG TCTCCGTAA AACACCGGAG ACTAATTCCT GNCCTGCCA
 25 ATTTTCAGG GAGCATGGCT GTGAGGATGG GGTGAATCA CGCACAGCCA AGGACTCAA AATCACAACA
 GCATTACTGT TCTTATTGTC TGCCACACCT GAGCCAGCCT GCTCCTTCCC AGGAGTGGAG GAGGCTGGG
 GGCAGGGAGA GGAJTGACTG AGCTTCCCTC CCGTGTGTT TCCGTCCCTG CCCAGCAAG ACAACTTAGA
 TCTCCAGGAG AACCGCATC CAGCTTGGT GCAATGGCTG AGTGACAAG TGAGTTGTG CCCTGGGTTT
 CTTTAATCTA TTCAJCTAGA ACTTTGAAGG ACAATTTCTT GCATTAATAA AGGTTAAGCC CTGAGGGGTC
 30 CCTGATAACA ACCTGGAGAC CAGGATTTTA TGGCTCCCT CACTGATGGA CAAGGGAGGT CTGTGCCAAA
 GAAGAATCCA ATAAGCACAT ATTGAGCACT TGCTGTATAT GCAGTATTGA GCACTGTAGG CAAGAGGGAA
 GAAAGAGAAG GAGTCATCTC CATCTGAAG GAACTCAAAG ACTCAAGTGG GAACGACTGG CACTGCCACC
 ACCAGAAAGC TGTTGACGA GACGGTCGAG CAGGGTGCTG TGGGTGATAT GGACAGCAGA AGGGGGAGAC
 CAAGGTCCA GCTCAACCAA TAACTATTGC ACAACCACCT GTCCCTGCCT CAGTTCCCTC TTCTGTAACA
 35 TGAAGTCGTT GTGAGGGTAA AAGGCAGTAA CAGGTATAAA GTACTTAGAA AAGCAAAGGG TGCTACGTAC
 ATGTGAGGCA TCATACGCA GACGTAACCTG GGATATGTTT ACTATAAGGA AAAGACACTG AGGTCTAGA -3'
 (FRAG. NO:2275) (SEQ. ID NO:2455)

5'- AAATGATAGA CAGTCAATAA TTTGTTAAAT GCTTTTAAAA ATGAATGCTT TAAGCCGGGT GCAGTGCTC
 40 ACATCTGTAA TCCCAGCACT TTGGAGCCGA GCGGGTGGAT TGTGTGAGGT CAGGAGTTCG AGACCAACCT
 GGCCAACATG GCAAAACCTC ACTCTCTACC AAAAAATACAA AAATTAGCCA GGCATGGTGG CAGGCACCTG
 TGATCCAGG TACTCAGGAG GCTGAGACAG GAGAATCGT TGAACCCGGG AGGCAAGGTT GCAGTGAGCC
 AAGATTACGC CATTCTACTC CAGCCTGGGT GACAGAGAGA GACTCCGTCT CAAAAAATAA AAAAAAATAA
 AAAAAATTAC GCTTCAAACA CATGATCTCT CACCAGTGT GAATTTTCTT TCTATGAGCC CAGGAGGGCC
 TCTCAGAGAG GAAAGCTCCT AGGTCTTCTT TTCCCTCTGC AAACCTCCTG CCTTGAAGGT TCAGAAGGAC
 45 TGTGCGTGCT CGTTGCATCC TTTGCAAGTG TCCAAACCT GATCCCAGCT GTGCTTAGGG GTTCTGCAA
 ACCTTTTCCA GGTGTTAATT ACCTCCCACT TCATTCTCTG TTTACCAACT CAGCTTTTTG TTTTAGTGTG
 TTTGAATTCC CTGAAGTAC CGTTGTCTGA TCTCCACCTC CCAACTGAAT TAGGGGAGCT GGGCTTCTGG
 AAACCCAGGT GCGCGGTGT GCAGAGTGGC TGAAAGCTGG GATGTGGCAG ATCCGTGGCT ACATTCATGC
 ACACACACAC ACCACATAC CCACACATGC ACACACACAC ACACACCCGC ACTCACACAC TTGGACATGC
 50 ATAGACCACA GCTTTCACA CCTTCTAG ACAGGGGTCA CTTGGTATCC TGGAGAGAGT GTGAAGTCTC
 GGAATGGAAA GAGCGGGGAT TAAGCCCCAC CTCTAGCCAT GGGACTGAGA CAAGTCACCA CCAACCCATC
 TGCGCCTTGT TTACTCTCTC TGTGAGGCAA GCACAGAGCC CATGCCTGCC CCCCTGGATG GGAGTGATGT
 GAAACTTGAA GGGCGGTCAG AGCAAGGGTC GGGAAATGGAA GGCCCTTGGG AAAAAAGGCC CTTTCAACTA
 GGGGCACAGA GGAGGCCCTG GGCTGAGAAC TTGACAGCAC CTTGTAATG GTAAGCCAAG CCCGAAGGGA
 55 CTGGAAATAC TCACATGTGT CTGTCTCCCT TATTAGGTTT AAAGTCCCTC AAGACCCTGT CTCCATCACA
 GTGCTCCAGT CCAGACCCCT CCTCTGAGCT CCAGACCCCTG CTGGACCCAA CCAGCCCTAT GGGGTGCGAT
 CCCACCTGC CTGGAATTCT CCAAAGAACC TCCCTTTTAA CAGTTCCAGC CTTTAAACAGT TCCAGTCTAA
 ACACATGACC TTCTCTCTCT AAATCAGCCC CCAATCTCTG CTTTGCAGG AGATGGAAGC CATGACACCT
 GCCTCGCCCC TGTCCTCACC CCATCCATGT CCAATCAAGC ACTAGGCATG TCAGTTTAC CCTCTAAACT
 60 CCTCTGGAAT CCAGTCTCTC AGTCTCCATC ATCCCAGGTC GAAGCTAATG GGCTAACTGG TCCTTGCTTC
 CACTTACCC CCACATGAGT CCGTACTTCC TGAGCAGCAG CCAGGGCCTA ATCGATATTC ACACCAAGCG
 CCAACCTGAC TGACATATCC TCCTGCACCA TCATCCCTCC ACCCTGTTTA GTTCTGCTCA CCCTCAGTGT

004040 " 529E4560

TCTCATCAAT AATC CACTCC CCTCACAGGC GCGTTTGGGA CCCCATGTTC TATGCTCTCA CAGGACCTTT
 TGCTTGATTT TTCACTGTAC TTAGGTCAGT TTGCAGTTAT TAAGTGACTG AGCAATGTCT GGCTTCTCCA
 GTAGACTGTC AGCTCCTAGC CATTGTATAC CTAGCACCGC TGTGTGGGAG CACGTGACAA ACGTCCAGTG
 AGTCAGGGAC TCAGCAGTCT CCATTTCTCC GCGCTGCTGG AGAATGCGTG TATTGGCAA TCCCAGCCC
 5 CTGTGCCATC TAACCATCTT TTCTTCTCTG TTCAGCCAG GTGTGGCCTC ACTCACATCC CACTCTGAGT
 CCAAATGTTC TCTCCTGGA AGATATCAAT GTTTCTGTCT GTTCGTGAGG ACTCCGTGCC CACCACGGCC
 TCTTTCAGGT GAGTCAAAGG GATTCCTCAG TTCACTAGTT AGGGGAGGTG GGCAGACACC CTGGAGAACT
 CCCTGGAAAG CTCACTCTC ATGCCCCGGA CAACAGTTGA AGGAACCATG GTGATGTAA GCCCAAAGAC
 AAAACCTCTC AGGTGTCAA GTCCCTGTTG GAATCTTGGG AGCAGAGGGA ATGTTCTGTG GTCTAGAGGA
 10 AGAGGGGCTC AGGGAGGAGA AGGGCACATT CCTGGTTGTT ATATGTTTCT ATCTATCCCA GATGAACCTG
 GAAGTGAAGG GAAGAGAGTT AAACATTAAG GTAAATACCC AGTGGATCAG ACAGCAATGT GCCAGATTGC
 CTTGGAAACA AAAATATCTCC AACACATGGC TGACATTTGG TGGGAGATCA GAACACCCTA AAGAGAGAAT
 TTAAGGGGAG GGGGAGGAGG ACCTGAGCCA GAGTAGAAGC AGAGGATAGG GAGATCTGTT CTTGGGGACA
 GCATTTGCAA GAAACAAGGC TGAGGGGTCC ACTCCAACCT CTCCACCCTG CTGCAGGTGC TGCCTATGAT
 15 GAAGATGAGC AGATGGCCAT CTCAGCTGGG GCCACAGTGC ACTGGACCTA TAGTTTCCAA TTCCGCACTC
 AGCAGGCATC TTCTTGATGA TCCGATGGCT TCTCAGAGCC AGGGATGGGC CAGGATCCAT CCCCTTGGCT
 ACTGTCTTGC TGACAAATTT ATAAGCAGCA TCTGGTGCTA TACTTTGGTC TCTAGTGAGT TAGCTCATGA
 AAGATGATAG ACTCTCCAAG CCAGGGGTAT GCAGGAAATG GGTTTTCTGT AGCTACAGAA ATGGGGTTGA
 GGGTTGAGG AAGGACTAC CCAGGGGAAG TCTTACCTT AGAGGACTCT GGAAAGGAGG CTGCAAGTTT
 20 TCATGGGTCA AGAATCTCAGA GCCCAGTAGA GACAGCTTAT CTCTGTTCCA AGATGTCTGG GGCCTTGGTT
 GGAAGATTCA AAGCTAGGA AACCCAGGAGC CACCAAAAGC GTAAGTGGG CCAGAGGATC CACTTTCAAG
 GTGGCAAGTT GGTCCCCC ATGTGGCTGC TTGAGTATCC TCACATGGCG GCTCACATCC TTCCAAGTAA
 GCAATGCAAA AGGCAAGAA AGATGCTGCA AAGATGTTAT GACCTAGCCT CAGAAATCAC ACACCATCCC
 TGCCACCATT AGTAAGAAGT CCAGCCACG TCCAGGAGAA GAGGAAGCAG ATTCCTCCTT TTGAAATGAA
 25 GAATATCAAG TAAATCGGGG GGCATATGAA AGCCACCACA CACCACAGGG ATCTTTTAG AGCATACTTC
 TTATACCATC ACTGTAGTTC CTTAAGACTC AGGGGCAAG CCTCACTTCC TTAGCACCCA GTGAAGACCA
 CGCTTACTCC CTCCTCAAC CTCTGTCTAC TTCCACCTC TCCTGTCCAA CATCTAGTGT CACTTTCCAG
 AACATACCAA CAGTTTCCC AGTTCTGTGC CTCTGCTCAG GCTGTTCCCC CTGCCTGGTC CACTTGTCTT
 30 CTTTCTTGTG CGGTCAAAAT GCTTCTTATC CTTCAAGACC CAGCTCTAGA GTCACTCCA ACCCTTACC
 CACCAGCCCC CTCTCCAAGT CTGTGTCCCA CAACCCCTT GCTCCCTCCA GGGCACCTC CACCCTCTGG
 GCCACAGTTG TCACGAGTCA GGCAGGGCAG GGGCCGGGTG GTGTCTTCTT TGTGTCTTG CACTCAGGGC
 AGAGCTCAGC ACACAGCAGA CGCTCAAAA ACATTTAAAG GATAGAAGCA TTGATTGTG GGTCCCCCAG
 TCTGGTCCA GGATGCCAGC CAGCTGCTCC TAGAAGCAAA CGGACTTTC CTGGGAAATC CCAGAGGTGA
 35 TGATCAGTAA TCTTCCCCG GACTCGTAGT TCAGCTCTTC CTCCATGAGC CTGACTATCA GTGGACCTTC
 CAGAAAGAGC CCCTTTCC TCTCTACCC ACAGCACAG GCACCTGGAA AATGCCCAAT GAGTCTGCC
 TCTGGGTGT GCTTGGACT TTTCAGTGTG TCTCGCATCC ACTCTTCAAC TTGAATGTG CAACAGCAT
 GAAAAAGAA ATGCAAGCG ATTACAGGATG AGAGCAATAC CCTACTCAA AGAAGGCAAC ATAGAAGCTC
 AGAGAGATCA AGCAATTGTC CCAAGACCAC ACAGCTAGGA GTGGAATCA TGGCTGTCCA AGCCCCATGC
 40 CTCTGCTGAA GGTAGAGATG AATTACAGCA ACAAGTCTAG AAAGGTGCCT GCCCTATGGT CTGTGAGTCT
 TGCCTAAGAA TGAAAGAGGA GCCAGTGGGT TAAAGATGAG GTCAACACA ACGGTGGTGT TGGAGTTTAC
 CACTGATAAT AAGGTGCAA AATGTAAAT ACTAATGTTT ATTGAGCCTA GTGCAGTGCG TGGGGCATTT
 TGCACATTGT CTCTATCCC TATGACAACC CTCGAGAGTA GTGGTTTAA CTGCCATGTT ACAGGTGAGG
 TCATTGTGGT TCAAAGACGT TAAGTAACCT CCCAGCGTG ACACGGCTTA TAAAGTAAGG ACAGGATG
 45 TGAACCCAGT AGGCTATCT GGCTGCAAA TCCCCACCC CCTCGCCATC TGTATCCTCC AATCACTTCA
 GTGCTTTGCT GCATAGAAG TAACGGAAT CACGATGCCA CAGACTGTCC AGGAAGACAG AAACCTAGGCA
 GATGGGCTGG CCAATGGTCT CAAGCCAGAC TGAATCTCC AGGTCTGGAA TGATATCATT TTTCTCTTTT
 AATAAATTAA CTCACCCACC ACACGGCTTT GAGAGGCTCA AAGTTGACCA ACTCCCTTGG GAGGGCCCCG
 GTTGATAAGG AAGCAACGTG AATCTCCCA TCACGGAAAG TTCAAGGAGG TCAAGGGTCC AACACTTGAG
 50 ATGTTAGTG CTGTGGTGG ATACTGGCCA AGGAAATATC CCAGTGGAGC CTCGAGATGA AGAATATGAG
 CCCCCGTTT AGAACCAAGG ATCAGAGGGG GCTCTGAAG ACCCAGGGGA GTCAGGTGCA CTGGAGCGCG
 GGCATGCAGA AAACAGCCTG AGCTCCACCT CGGCTTCTCC TTGTCCTGGC TGGTTGTCTT TAACCCCTGT
 CTCCTTCTGG ACCAGTTTTT GTCCTTCCCT TGTGACCGCT GAGGGGTAAC AGCCTCTTTC CACTTTCTTT
 CAGCGCCGAC ATGCTCAATG TCACCTTGCA AGGGCCACT CTTAACGGGA CCTTTGCCCA GAGCAAATGC
 CCCCAGTGG AGTCTGCTGG CTGGCTCAAC ACCATCCAGC CCCCTTCCCT CTGGGTGCTG TTCGTGCTGG
 55 CCACCTAGA GAACATCTTT GTCCTCAGCG TCTTCTGCCT GCACAAGAGC AGCTGCACGG TGGCAGAGAT
 CTACCTGGGG AACCTGGCCG CAGCAGACCT GATCCTGGCC TGCGGGCTGC CCTTCTGGGC CATCACCATC
 TCCAACAAT TCGATGGCT CTTGGGGAG ACGCTCTGCG GCGTGGTGAA TGCCATTATC TCCATGAACC
 TGTACAGCAG CATCTGTTT TGAGACTCGA CCGCTACCTG AGCTTGGTGA AGCCTGGTGA TACGCTGCTC
 60 CATGGGCCGG ATGCGCGCG TGCGTGGGC CAAGCTCTAC AGCTTGGTGA AGCCTGGTGA TACGCTGCTC
 CTGAGCTCAC CCATCTGGT GTTCCGGACC ATGAAGGAGT ACAGCGATGA GGGCCACAAC GTCACCGCTT
 GTGTCATCAG CTACCCATCC CTCATCTGGG AAGTGTTCAC CAACATGCTC CTGAATGTG TGGGCTTCTT
 GCTGCCCTG AGTGTCATCA CTTTCTGCAC GATGCAGATC ATGCAGGTGC TGCGGAACAA CGAGATGCAG

004040 " 6294560

AAGTTCAAGG AGA¹CCAGAC GGAGAGGAGG GCCACGGTGC TAGTCCTGGT TGTGCTGCTG CTATTCATCA
 TCTGCTGGCT GCCC²TTCCAG ATCAGCACCT TCCTGGATAC GCTGCATCGC CTCGGCATCC TCTCCAGCTG
 CCAGGACGAG CGCATCATCG ATGTAATCAC ACAGATCGCC TCCTTCATGG CCTACAGCAA CAGTGCCCTC
 AACCCTACTGG TGT³ACGTGAT CGTGGGCAAG CGCTTCCGAA AGAAGTCTTG GGAGGTGTAC CAGGGAGTGT
 5 GCCAGAAAGG GGG⁴CTGCAGG TCAGAACCCA TTCAGATGGA GAACTCCATG GGCACACTGC GGACCTCCAT
 CTCCGTGGAA CGCCAGATTC ACAAACTGCA GGACTGGGCA GGGAGCAGAC AGTGAGCAAA CGCCAGCAGG
 GCTGCTGTGA ATTTGTGTAA GGATTGAGGG ACAGTTGCTT TTCAGCATGG GCCCAGGAAT GCCAAGGAGA
 CATCTATGCA CGAC⁵CTTGGG AAATGAGTTG ATGTCTCCGG TAAAACACCG GAGACTAATT CCTGCCCTGC
 CCAATTTTGC AGGGAGCATG GCTGTGAGGA TGGGGTGAAC TCACGCACAG CCAAGGACTC CAAAATCACA
 10 ACAGCATTAC TGT⁶CTTATT TGCTGCCACA CCTGAGCCAG CCTGCTCCTT CCCAGGAGTG GAGGAGGCCT
 GGGGGCAGGG AGA⁷AGAGTGA CTGAGCTTCC TCCCGTGTG TTCTCCGTCC CTGCCCCCAG AAGACAACCT
 AGATCTCCAG GAGA⁸ACTGCC ATCCAGCTTT GGTGCAATGG CTGAGTGCAC AAGTGAGTTG TTGCCCTGGG
 TTTCTTTAAT CTAT⁹TCAGCT AGAACTTTGA AGGACAATTT CTTGCATTAA TAAAGGTTAA GCCCTGAGGG
 GTCCCTGATA ACA¹⁰CCTGGA GACCAGGATT TTATGGCTCC CCTCACTGAT GGACAAGGAG GTCTGTGCCA
 15 AAGAAGAATC CAA¹¹AAGCAC ATATTGAGCA CTTGCTGTAT ATGCAGTATT GAGCACTGTA GGCAAGAGGG
 AAGAAAGAGA AGG¹²AGCCATC TCCATCTTGA AGGAACTCAA AGACTCAAGT GGGAACGACT GGGCACTGCC
 ACCACCAGAA AGC¹³GTTCGA TGAGACGGTC GAGCAGGGTG CTGTGGGTGA TATGGACAGC AGAAGGGGGA
 GCCAGGTTC AGTC¹⁴ACCAA TACTATTGCA CACCACCTGT CCTGCCCTC -3' (FRAG. NO:2275) (SEQ. ID NO:2454)
 5'- CAGATTACAA A¹⁵CTGCAGGA CTGGGCAGGG AGCAGACAGT GAGCAAACGC CAGCAGGGCT GCTGTGAATT
 20 TGTGTAAGGA TTGAGGGACA GTTGCTTTTC AGCATGGGCC CAGGAATGCC AAGGAGACAT CTATGACGCA
 CCTTGGGAAA TGAC¹⁶TTGATG TCTCCGGTAA AACACCGGAG ACTAATTCCT GCCCTGCCCA ATTTTGACAGG
 GAGCATGGCT GTGA¹⁷GGATGG GGTGAACTCA CGCACAGCCA AGGACTCCAA AATCACAACA GCATTACTGT
 TCTTATTTGC TGCC¹⁸ACACCT GAGCCAGCCT GCTCCTTCCC AGGAGTGGAG GAGGCCTGGG GGGAGGGAGA
 GGAGTGACTG AGC¹⁹TCCCTC CCGTGTGTTT TCCGTCCCTG CCCCAGCAAG ACAACTTAGA TCTCCAGGAG
 25 AACTGCCATC CAG²⁰CTTGGT GCAATGGCTG AGTGACAAAG TGAGTTGTTG CCCTGGGTTT CTTTAATCTA
 TTCAGCTAGA ACT²¹TGAAGG ACAATTTCTT GCATTAATAA AGGTTAAGCC CTGAGGGGTC CCTGATAACA
 ACCTGGAGAC CAGC²²ATTTTA TGGCTCCCCT CACTGATGGA CAAGGAGGTC TGTGCCAAAG AAGAATCCAA
 TAAGCACATA TTGAGCACTT GCTGTATATG CAGTATTGAG CACTGTAGGC AAGACCCAAG AAAGAGAAGG
 AGCCATCTCC ATCT²³TGAAGG AACTCAAAGA CTCAAGTGGG AACGACTGGG CACTGCCACC ACCAGAAAGC
 30 TGTTCGACGA GACGGTCGAG CAGGGTGCTG TGGGTGATAT GGACAGCAGA AGGGGGAGAC CAAGGTTCCA
 GCTCAACCAA TAA²⁴CTATTGC ACAACCACCT GTCCCTGCCT CAGTTCCCTT TTATGTAACA TGAAGTCGTT
 GTGAGGGTTA AAGC²⁵CAGTAA CAGGTATAAA GTACTTAGAA AAGCAAAGGG TGCTACGTAC ATGTGAGGCA
 TCATTACGCA GACG²⁶TAAC TGATATGTTT ACTATAAGGA AAAGACACTG AGGTCTAGAA ATAGCTCCGT
 GGAGCAGAAT CAG²⁷TATTGG AGCCGGTGGC GGTGTGAAGC ACCAGTGTCT GGCACACAGT AGGTGCTCAT
 35 TGGCTCCCTT CCAC²⁸TGTCA TTCCACCAC CCTGAGGCC CAACCGCCAC ACACACAGGA GCATTTGGAG
 AGAAGGCCAT GTC²⁹TCAAAG TCTGATTTGT GATGAGGCAG AGGAAGATAT TTCTAATCGG TCTTGCCAG
 AGGATCACAG TGCT³⁰GAGACC CCCCACCACC AGCCGGTACC TGGGAAGGGG GAGAGTGCAG GCCTGCTCAG
 GGA³¹CTTCC TGTC³²ICAGCA ACCAAGGGAT TGTTCCTGTC AATCAATGGT TTATTGGAAG GTGGCCAGT
 ATGAGCCCTA GAAG³³AGTGTG AAAAGGAATG GCAATGGTGT TCACCATCGG CAGTGCCAGG GCAGCACTCA
 40 TTCATTGAT AAAT³⁴JAATAT TTATTAGCTG GTTGGAGAGC TAGAACCTGG AGAGCTAGAA CCTGGAGAAC
 TAGAACCTGG AGGG³⁵CTAGAA CCTGGAGAGG CTAGAACCAA GAAGGGCTAG AACCTGGAGG GGCTAGAACC
 TAGAGAAGCT AAA³⁶CCTGAG CTAGAAGCTG GAGGACTAGA ACCTGGAGGG CTGGAATCTG AAGGGCTAGA
 ACCTGGAGGG CTGA³⁷AATCTG GAGAGCTAGA ACCTGGAGGG CTAGAACCTG GAGGGCTAGA ACCTAGAAGG
 45 GCTAGAACCT GGAG³⁸GGCTGG AATCTGGAGA GCTAGAACCT GGAGGGCTAG AACCTGGAGG GCTAGAACCT
 AGAAGGGCTA GAA³⁹CCTGGAG GGCTAGAACC TGGCAGGTTA GAACCTAGAA GGGCTAGAAC CTGGAGAGCC
 AGAACCTGGA GGG⁴⁰CTAGAAC CTGGAAGGGC TAGAACCTGT AGAGCTAGAA CATGGAGAGC TAGAACCCGG
 CAGGCTAGAA CCT⁴¹GGCAAGC TAGAACCTGG AGGGAATGAA CCTGGAGGGC TAGAACCTGG AGAATGAGAA
 AAATTTACAT GGCA⁴²AAGAGC CCATAAATCC TGACCAATCC AACTCTGAAT TTAAAGCAA AAGCGTGAAA
 AAAAAGATTC CCT⁴³CTTACC CCCAACCCAC TCTTTTTC CACCACCAC TCTCCTCTGC CTCAGTAAGT
 50 ATCTGGAGGA AGA⁴⁴AACAGG TGAAGAAGA AGTAAAAACC ATTTAGTATT AGTATTAGAA TGAAGTCAAA
 CTGTGCCACA CATG⁴⁵GTGAAT GAAAAAAGG TGTGTTTGT CACACAGGGC AGTCATTGAG
 CACCAGAGCA CGTC⁴⁶ATGGTC TGAGACTCTC TTAGGAGCAG AGCTCTGCCG CAATGGCCAT GTGGGGATCC
 ACACCTGGTC TGAG⁴⁷GGGCAA CTGAGTCTGC GGGAGAAGAG CGGCCCTATG CATGGTGTAG ATGCCCTGAT
 AAAGAACATC TGT⁴⁸CTGTGA AAGACTCAAT GAGCTGTTAT GTTGTAACA GGAAGCATTT CACATCCAAA
 55 CGAGAAAATC ATG⁴⁹IAAATAT GTGCTTTTC TGTAGAGCAT AATAAATGGA TGAGGTTTTT GCAAAAAAAA
 AAAAAAAA -3' (FRAG. NO:2275) (SEQ. ID NO:2453)
 5'- GAGCTCTTCA ATATTTAGT GAAAGCTATA GATGAGGCTC CATAGGGGAT AAAGCACAGA CACACCTTTT
 CAGAGGGCTT GTGG⁵⁰ACTCTG GGCAGCCTGT CCATGACCT CTGTCCCAA CTGGCAAGTC AGGAACTCC
 AGATTAAGGA GCCC⁵¹CAATGT GGTGAAACAG CCAGGTGCAC AGATGAGTCA ACCACACAGC CAGGCCAGGG
 60 AGGGCCTTCA CTCA⁵²AGAGCC TACAGCCAGT TCACAGCCAA GCCAGGGCTA GCGCCAGGCC ACCCATAAAC
 TGATCTGAGA CTCT⁵³TTTTCC CTGTCTCCAT GATGATGGGA TCAGGCTTGA TTGCTGGTTT GTAGGCTTGT
 TATGAATCAA GTCACAGGGA AGAGGAGCTG ATGGGCTGGG GGGACGTCCT CTGGCCCTCC TGTCTCTTCC

004070-040400

CCAGATCCAC TGGGCCCCTT CTTATCTGTT CTCTTCTGAA GGAAGGGTTT TAAGGCTTCA AAAAAAATG
 TTTTGAAAGT CCCTGCCCTT TCCAGTCTCT ACCGTCTCAG CCCTGGGAGT GTAAAGTGCT GCAGATAGTT
 AGTAAGTCTT TGACCAAAAC TGAGAAAGCC AGCCTGAGCC TTGACATGGG AGAAACCTCC GCCATACATC
 TCCGAAGAAA CCGGCGCGTG TCTCAGGGGA GCGCAAAACAC CCGTACCCAG GAAACAGGAC AGCTTCTGCC
 5 ACTGTCGCCC TTGGGAGCCG TACGTGGCAT GACAAAGAAA TCCCAGGACT CCGCCTGCCC ACCTGGCCAC
 CCTCTGTTTA CACCTTCCGC GTAAACGCCC ACTGTTTACA TCCAAAACCTC AGACACAAAA TAACCACCTC
 AAGAAGATAA ATAATGATAA GAAATAAATG TTACGCGAGG CAAATTTATT CACATGGGGC TTCCCAGGCC
 ACTTTGTGGT CAGCGGGGAG GGACGTTTTT GCCGTCCCAC GACTCCAACG GGAGCCGGG CCTACGAAA
 CATGGAATC TTCCAAGAGC CTCCCTGGCC CCCAGGGCTC AGAGGGTGCG AGAGCGGAGA GCGAAGGTGG
 10 CCGCAGCCTT CCCGCCCCA CAGCCAGCCT GGCTCCAGCT GGGCAGGAGT GCAGAGCTCA GCTGGAGGCG
 AGGGGGAAGT GCCCAGGAGG CTGATGACAT CACTACCCAG CCCTTCAAAG ATGAGCTGTT CCCGCCGCA
 CTCCAGCTCT GGCTTCTGGG CTCCGAGGAG GGGTGGGGAC GGTGGTGACG GTGGGGACAT CAGGCTGCC
 CGCAGTACCA GGGAGCGACT GAAGTGCCCA TGCCGCTTGC TCCGGAGAAG GTGGGTGCCG GGCAGGGGCT
 GCTCCAGCCG CCTCACCTCT GCTGGGAGGA CAACTGTCC CAGCACAGAG GGAGGGAGGG AGGGCAGGCA
 15 GCGGGGAGAA GTTCCCTGT GGTCGTGGG AGTTGGGAAA AGTTCCCTC CTCCGGAGG GAGG-3'
 (FRAG..NO:2275) (SEQ.ID NO:2452)
 5'- GCCCTTCAAA GATGAGCTGT TCCCGCCGCC ACTCCAGCTC TGGCTTCTGG GCTCCGAGGA GGGGTGGGGA
 CCGTGGTGAC GGTCGGGACA TCAGGCTGCC CCGCAGTACC AGGGAGCGAC TGAAGTGCCC ATGCCGCTTG
 CTCCGGAGAA GGTGGGTGCC GGGCAGGGG TGCTCCAGCC GCCTCACCTC TGCTGGGAGG ACAAATGTC
 20 CCAGCACAGA GGGAGGGAGG GAGGCAGGC AGCGGGGAGA AGTTCCCTG TGTCGTGGG GAGTT -3'
 (FRAG.NO:2275) (SEQ.ID NO:2451)
 5'- GCCCTTCAAA GATGAGCTGT TCCCGCCGCC ACTCCAGCTC TGGCTTCTGG GCTCCGAGGA GGGGTGGGGA
 CCGTGGGGAC ATCAGGCTGC CCCGAGTAC CAGGGAGCGA CTGAAGTGCC CATGCCGCTT GCTCCGAGA
 AGGTGGGTGC CCGCAGGGG CTGCTCAGC CGCTCACCT CTGCTGGGAG GACAACTGT CCCAGCACAG
 25 AGGGAGGGAG GGAGGGCAGG CAGCGGGGAG AAGTTCCCT GTGGTCTGG GGAGTT-3' (FRAG.NO:2275) (SEQ.
 ID NO:2450)
 5'- ATGTTCTCTC CTGGAAGAT ATCAATGTTT CTGTCTGTTT GTGAGGACTC CGTGCCACC ACGGCCTCTT
 TCAGCGCCGA CATCTCAAT GTCACCTTG CAGGGCCAC TCTTAACGGG ACCTTTGCC AGAGCAAATG
 CCCCCAAGTG GAGTGGCTGG GCTGGCTCAA CACCATCCAG CCCCCCTTCC TCTGGGTGCT GTTCGTGCTG
 30 GCCACCCTAG AGAATCATCTT TGCTCTCAGC GTCTTCTGCC TGCACAAGAG CAGCTGCACG GTGGCAGAGA
 TCTACCTGGG GAACCTGGCC GCAGCAGACC TGATCTTGGC CTGCGGGCTG CCCTTCTGGG CCATCACCAT
 CTCCAACAAC TTCCACTGGC TCTTGGGGA GACGCTCTGC CGCGTGGTGA ATGCCATTAT CTCCATGAAC
 CTGTACAGCA GCATCTGTTT CCTGATGCTG GTGAGCATCG ACCGCTACCT GGCCCTGGTG AAAACCATGT
 CCAATGGGCGG GATCGCGGC GTGCGCTGGG CCAAGCTCTA CAGCTTGGTG ATCTGGGGT GTACGCTGCT
 35 CTGAGCTCA CCCATGCTGG TGTCCGGAC CATGAAGGAG TACAGCGATG AGGGCCACAA CGTACCGCT
 TGTGTATCA GCTACCATC CCTCATCTGG GAAGTGTCA CCAACATGCT CCTGAATGTC GTGGGCTTCC
 TGCTGCCCCT GAGTGTATC ACCTTCTGCA CGATGCAGAT CATGCAGGTG CTGCGGAACA ACGAGATGCA
 GAAGTTCAAG GAGATCCAGA CGGAGAGGAG GGCCACGGTG CTAGTCTGG TTGTGCTGCT GCTATTATC
 ATCTGCTGGC TGCCCTTCCA GATCAGCACC TTCCTGGATA CGCTGCATCG CCTCGGCATC CTCTCCAGCT
 40 GCCAGGACGA GCGCATCATC GATGTAATCA CACAGATCGC CTCCTTCATG GCCTACAGCA ACAGCTGCCT
 CAACCCACTG GTGTACGTGA TCGTGGGCAA GCGCTTCCGA AAGAAGTCTT GGGAGGTGTA CCAGGGAGTG
 TGCCAGAAAG GGGGCTGCAG CTCAGAACCC ATTCAGATGG AGAACTCCAT GGGCACACTG CGGACCTCCA
 TCTCCGTGGA ACGCCAGATT CACAACTGC AGGACTGGG AGGGAGCAGA CAGTGAGCAA ACGCCAGCAG
 GGCTGCTGTG AATTGTGTA AGGATTGAGG GACAGTTGCT T-3' (FRAG. NO:2275) (SEQ. ID NO:2449)
 45 5'- ATGTTCTCTC CTGGAAGAT ATCAATGTTT CTGTCTGTTT GTGAGGACTC CGTGCCACC ACGGCCTCTT
 TCAGCGCCGA CATCTCAAT GTCACCTTG CAGGGCCAC TCTTAACGGG ACCTTTGCC AGAGCAAATG
 CCCCCAAGTG GAGTGGCTGG GCTGGCTCAA CACCATCCAG CCCCCCTTCC TCTGGGTGCT GTTCGTGCTG
 GCCACCCTAG AGAATCATCTT TGCTCTCAGC GTCTTCTGCC TGCACAAGAG CAGCTGCACG GTGGCAGAGA
 50 TCTACCTGGG GAACCTGGCC GCAGCAGACC TGATCTTGGC CTGCGGGCTG CCCTTCTGGG CCATCACCAT
 CTCCAACAAC TTCCACTGGC TCTTGGGGA GACGCTTGC CGCGTGGTGA ATGCCATTAT CTCCATGAAC
 CTGTACAGCA GCATCTGTTT CCTGATGCTG GTGAGCATCG ACCGCTACCT GGCCCTGGTG AAAACCATGT
 CCAATGGGCGG GATCGCGGC GTGCGCTGGG CCAAGCTCTA CAGCTTGGTG ATCTGGGGT GTACGCTGCT
 CCTGAGCTCA CCCATGCTGG TGTCCGGAC CATGAAGGAG TACAGCGATG AGGGCCACAA CGTACCGCT
 TGTGTATCA GCTACCATC CCTCATCTGG GAAGTGTCA CCAACATGCT CCTGAATGTC GTGGGCTTCC
 55 TGCTGCCCCT GAGTGTATC ACCTTCTGCA CGATGCAGAT CATGCAGGTG CTGCGGAACA ACGAGATGCA
 GAAGTTCAAG GAGATCCAGA CGGAGAGGAG GGCCACGGTG CTAGTCTGG TTGTGCTGCT GCTATTATC
 ATCTGCTGGC TGCCCTTCCA GATCAGCACC TTCCTGGATA CGCTGCATCG CCTCGGCATC CTCTCCAGCT
 GCCAGGACGA GCGCATCATC GATGTAATCA CACAGATCGC CTCCTTCATG GCCTACAGCA ACAGCTGCCT
 CAACCCACTG GTGTACGTGA TCGTGGGCAA GCGCTTCCGA AAGAAGTCTT GGGAGGTGTA CCAGGGAGTG
 TGCCAGAAAG GGGGCTGCAG CTCAGAACCC ATTCAGATGG AGAACTCCAT GGGCACACTG CGGACCTCCA
 60 TCTCCGTGGA ACGCCAGATT CACAACTGC AGGACTGGG AGGGAGCAGA CAGTGAGCAA ACGCCAGCAG
 GGCTGCTGTG AATTGTGTA AGGATTGAGG GACAGTTGCT T-3' (FRAG. NO:2275) (SEQ. ID NO:2448)

5'- TGATCCTATC AC'AACCTGAG AGTAGTTTTT ACTCCATTTA CAGGTGAGGT CATTGTGGTT CAAGGACGTT
 AAGTAACTTC CCCAGCTCAC ACGGCTTATA AGTAAGGCAG CCAGGATGTG AACCCAGTAG GACTATCTGG
 CTGCAAAGTC CCCA.CCCTCC CTCGCCATCT GTATCCTCCA ATCATCTTCA GTGCTTTGCT GATAGAAGGT
 ACGGAAATAC GATGCCACAG ACTGTCCAGG AAGACGAGAA CTAGGCAGAT GGGCTGGCCA TGGTCTCCAA
 5 GCCAGACTGG AATCTCCAGG TCTGGAATGA TATCATTTTT CTCTTTTAAT AAATTAATC ACCCACCACA
 CGGCTTTGAG AGGCTCAAAG GTGACCAACT CCCTTGGGAG GGCCCCGGT GATAAGGAAG GAATGTGAAT
 CCTCCCATCA CGGAAGCTTC AAGGAGGTCA AGGGTCCAAC ACTTGAGATT GTTAGTGCTG TTGGTGGATA
 CTGCAGAAATA TCCAGTGGAG CCTCAGATGA AGAACATGAG GCCCCGTTTA GATCCAAGGA TCAGAGGGGG
 CTCTGTAAGA CCCAGGGGAG TCAGGTGCAC TGGAGCGCGG GCTGCAGAAA ACAGCCTGAG CTCCACCTCG
 10 GCTTCTCCTT GCCCTGGCTG GTTGTCTTAA ACCCTGTCTT CCTTCTGGAC CAGTTTTTGT CCTTCCCTTG
 TGACCTGAGG GGTAAACAGCC TCTTTTCCAC TTTCTTTCAG CGCCGACATG CTCAATGTCA CCTTGCAAGG
 GCCCACTCTT AACGGGACCT TTGCCAGAG CAAGTGGAGT CAAGTGGAGT GGCTGGGCTG CTCAGCAACC
 ATCCAGCCCC CCTTCTCTG GGTGCTGTTT GTGCTGGCCA CCCTAGAGAA CATCTTTGTC CTCAGCGTCT
 TCTGCCTGCA CAAGAGCAGC TGCACGGTGG CAGAGATCTA CCTGGGGAAC CTGGCCGAG CAGACCTGAT
 15 CCTGGCCTGC GGGCTGCCCT TCTGGGCCAT CACCATCTCC AACAACCTCG ACTGGCTCTT TGGGGAGACG
 CTCTGCCGCG TGGTGAATGC CATTATCTCC ATGAACCTGT ACAGCAGCAT CTGTTTCTG ATGCTGGTGA
 GCATCGACCG CTACTGCGC CTGGTGAAAA CCATGTCCAT GGGCCGGATG CGCGGCGTGC GCTGGGCCAA
 GCTCTACAGC TTGGTGATCT GGGGGTGTAC GCTGCTCCTG AGTCAACCCA TGCTGGTGT CCGGACCATG
 AAGGAGTACA CCGATGAGGG CCACAACGTC ACCGCTTGTG TCATCAGCTA CCCATCCCTC ATCTGGGAAG
 20 TGTTCACCAA CATCCTCCTG AATGTCTGG GCTTCTGCTT GCTTCTGCTT GCTTCTGCTT TCTGACGAT
 GCAGATCATG CAGGTGCTGC GGAACAACGA GATGCAGAAG TTCAAGGAGA TCCAGACGGA GAGGAGGGCC
 ACGGTGCTAG TCTTGGTTGT GCTGCTGCTA TTCATCATCT GCTGGCTGCC CTTCAGATC AGCACCTTCC
 TGGATACGCT GCATCGCCTC GGCATCCTCT CCAGCTGCCA GGACGAGCGC ATCATCGATG TAATCACACA
 GATCGCCTCC TTCAAGGCGT ACAGCAACAG CTGCCTCAAC CCACTGGTGT ACGTGATCGT GGGCAAGCGC
 25 TTCCGAAAGA AGTCTTGGGA GGTGTACCAG GGAGTGTGCC AGAAAGGGGG CTGCAGGTCA GAACCCATTC
 AGATGGAGAA CTCCATGGGC AACTGCGGA CCTCCATCTC CGTGGAACGC CAGATTCACA AACTGCAGGA
 CTGGCAGGG AGCAAGACAGT GAGCAAAACG CAGCAGGGCT GCTGTGAATT TGTGAAGGA TTGAGGGACA
 GTTGCTTTTC AGCAAGGCGC CAGGAATGCC AAGGAGACAT CTATGCACGA CCTTGGGAAA TGAGTGTGA
 TGTCTCCGGT AAAACACCGG AGACTAATTC CTGCCCTGCC CAATTTTCGA GGGAGCATGG CTGTGAGGAT
 30 GGGGTGAAC CACCACAGC CAAGGACTCC AAAATCACAA CAGCATTACT GTTCTTATTT GCTGCCACAC
 CTGAGCCAGC CTGCTCCTTC CCAGGAGTGG AGGAGGCCTG GGGGAGGGAG AGGAGTGACT GAGCTTCCCT
 CCCGTGTGTT CTCCCTCCTT GCCCAGCAA GACAACCTAG ATCTCCAGGA GAACTGCCAT CCACGTTTGG
 TGCAATGGCT GAGTGCACAA GTGAGTTGTT GCCCTGGGTT TCTTTAATCT ATCAGCTAGA ACTTTGAAGG
 ACAATTTCTT GCATTAATAA AGGTAAAGCC CTGAGGGGTC CCTTGATAAC AACCTGGAGA CCAGGATTTT
 35 ATGGCTCCCC TCACAGATGG ACAAGGAGT GTTGCCAAA GAAGAATCAA TAAGCACATA TGAGCACTTC
 TGTATATCAG TATTGAGCAC TGTAGGCA -3' (FRAG. NO:2275) (SEQ. ID NO:2447)
 5'- CTGCAGAAAA CAGCCTGAGC TCCACCTCGG CTCTCCTTG CCCTGGCTGG TTGTCCTTAA CCCCTGTCTC
 CTCTGGACC AGTITTTGTC CTTCCTTGT GACCTGAGG GGTAACAGCC TCTTTTCCAC TTTCTTTCAG
 CGCCGACATG CTCAATGTCA CCTTGCAAGG GCCACTCTT AACGGGACCT TTGCCAGAG CAAATGCCCC
 40 CAAGTGGAGT GGTGGGCTG GCTCAACACC ATCCAGCCCC CCTTCTCTG GGTGCTGTTT GTGCTGGCCA
 CCCTAGAGAA CATCTTTGTC CTCAGCGTCT TCTGCCTGCA CAAGAGCAGC TGCACGGTGG CAGAGATCTA
 CCTGGGGAAC CTGC CCGCAG CAGACCTGAT CCTGGCTGTC GGGCTGCCCT TCTGGGCCAT CACCATCTCC
 AACAACCTCG ACTGCTCTT TGGGGAGAGC CTCTGCGCGT TGGTGAATGC CATTATCTCC ATGAACCTGT
 ACAGCAGCAT CTGTTTCTG ATGCTGGTGA GCATCGACCG CTACCTGGCC CTGGTGAAAA CCATGTCCAT
 45 GGGCCGGATG CGCCCGGTGC GCTGGGCCAA GCTCTACAGC TTGGTGATCT GGGGGTGTAC GCTGCTCCTG
 AGCTACCCCA TGCTGTGTTT CCGGACCATG AAGGAGTACA GCGATGAGGG CCACAACGTC ACCGCTTGTG
 TCATCAGCTA CCCATCCCTC ATCTGGGAAG TGTTCACCAA CATGCTCCTG AATGTCGTGG GCTTCTGCT
 GCCCTGAGT GTCAACACCT TCTGCACGAT GCAGATCATG CAGGTGCTGC GGAACAACGA GATGCAGAAG
 TTCAAGGAGA TCCAGACGGA GAGGAGGGCC ACGGTGCTAG TCCTGGTTGT GCTGCTGCTA TTCATCATCT
 50 GCTGGCTGCC CTTCAGATC AGCACCTTCC TGGATACGCT GCATCGCCTC GGCATCCTCT CCAGCTGCCA
 GGACGAGCGC ATCACTGATG TAATCACACA GATCGCTTCC TTCATGGCCT ACAGCAACAG CTGCCTCAAC
 CCACTGGTGT ACGTATCTGT GGGCAAGCGC TTCCGAAAGA AGTCTTGGGA GGTGTACCAG GGAGTGTGCC
 AGAAAGGGGG CTGCAGGTCA GAACCCATTC AGATGGAGAA CTCCATGGGC AACTGCGGA CCTCCATCTC
 CGTGGAACGC CAGATTCACA AACTGCAGGA CTGGGCAGGG AGCAGACAGT GAGCAAAACGC CAGCAGGGCT
 55 GCTGTGAATT TGTGTAAGGA TTGAGGGACA GTTGCTTTTC AGCATGGGCC CAGGAATGCC AAGGAGACAT
 CTATGCACGA CTTTGGGAAA TGAGTTGATG TCTCCGGTAA AACACCGGAG ACTAATTCCT GNCCTGCCCA
 ATTTTGACAG GAGCATGGCT GTGAGGATGG GGTGAACCTA CGCACAGCCA AGGACTCCAA AATCACAACA
 GCATTACTGT TCTTATTTGC TGCCACACCT GAGCCAGCCT GCTCCTTCCC AGGAGTGGAG GAGGCTGGG
 GGCAGGGAGA GGAAGTACTG AGCTTCCCTC CCGTGTGTTT TCCGTCCTG CCCCAGAAC ACAACTTAGA
 60 TCTCCAGGAG AACTGCCATC CAGCTTTGGT GCAATGGCTG AGTGACAAG TGAGTTGTTG CCCTGGGTTT
 CTTTAATCTA TTCACTAGA ACTTTGAAGG ACAATTTCTT GCATTAATAA AGGTAAAGCC CTGAGGGGTC
 CCTGATAACA ACCTGAGAC CAGGATTTTA TGCTCCCT CACTGATGGA CAAGGGAGGT CTGTGCCAAA

0043670-040400

GAAGAATCCA ATAA GCACAT ATTGAGCACT TGCTGTATAT GCAGTATTGA GCACTGTAGG CAAGAGGGAA
 GAAAGAGAAG GAGGCATCTC CATCTTGAAG GAACCAAAAG ACTCAAGTGG GAACGACTGG CACTGCCACC
 ACCAGAAAAGC TGTTCGACGA GACGGTCGAG CAGGGTGCTG TGGGTGATAT GGACAGCAGA AGGGGGAGAC
 CAAGGTTCCA GCTCAACCAA TAACTATTGC ACAACCACCT GTCCCTGCCT CAGTTCCCTC TTCTGTAAACA
 5 TGAAGTCGTT GTGAGGGTTA AAGGCAGTAA CAGGTATAAA GTACTTAGAA AAGCAAAGGG TGCTACGTAC
 ATGTGAGGCA TCATACGCA GACGTAACCTG GGATATGTTT ACTATAAGGA AAAGACACTG AGGTCTAGA -3'
(FRAG. NO:2275) (SEQ. ID NO:2446)
 5'- AAATGATAGA CCGTCAATAA TTTGTTAAAT GCTTTTAAAA ATGAATGCTT TAAGCCGGGT GCAGTGCCTC
 ACATCTGTAA TCCCAGCACT TTGGAGCCGA GCGGGTGGAT TGTGTGAGGT CAGGAGTTCG AGACCAACCT
 10 GGCCAACATG GCAAAACCTC ACTCTCTACC AAAAATACAA AAATTAGCCA GGCAATGGTGG CAGGCACCTG
 TGATCCAGC TACTCAGGAG GCTGAGACAG GAGAATCGCT TGAACCCGGG AGGCAAGGTT GCAGTGAGCC
 AAGATTACGC CATTGTACTC CAGCCTGGGT GACAGAGAGA GACTCCGTCT CAAAAAATAA AAAAAAATAA
 AAAAAATTAC GCTTCAACAA CATGATCTCT CACCAGTGT GAATTTTCTT TCTATGAGCC CAGGAGGGCC
 TCTCAGAGAG GAAAGCTCCT AGGTCTCTCT TTCCCTCTGC AAACCTCCCTG CCTTGAAGGT TCAGAAGGAC
 15 TGTGCGTGCT CGTTGCATCC TTTGCAAGTG TCCAAACCCT GATCCCAGCT GTGCTTAGGG GTTCTTGCAA
 ACCTTTTCCA GGTC TTAATT ACCTCCCACT TCATTCTCTG TTTACCAACT CAGCTTTTTG TTTTAGTGTG
 TTTGAATTCC CTGAACCTGAC CGTTGTCTGA TCTCCACCTC CCAACTGAAT TAGGGGAGCT GGGCTTCTGG
 AAACCCAGGT GCGCGGTGTT GCAGAGTGGC TGAAAGCTGG GATGTGGCAG ATCCGTGGCT ACATTCATGC
 ACACACACAC ACCACATAC CCACACATGC ACACACACAC ACACACCCGC ACTCACACAC TTGGACATGC
 20 ATAGACCACA GCTTCCACA CCTTCTCTA ACAGGGGTCA CTTGGTATCC TGGAGAGAGT GTGAAGTCTCT
 GGAATGGAAG GAGGGGGGAT TAAGCCCCAC CTCTAGCCAT GGGACTGAGA CAAGTCACCA CCAACCCATC
 TGCGCCTTGT TTACTCTCTC TGTGAGGCAA GCACAGAGCC CATGCCTGCC CCCCTGGATG GGAGTGATGT
 GAAACTTGAA GGGCGGTCAG AGCAAGGGTC GGAATGGAAG GGCCCTTGGG AAAAAAGGCC CTTTCAACTA
 GGGGCACAGA GGAGGCCCTG GGCTGAGAAC TTGACAGCAC CTTGTAATTG GTAAGCCAAG CCCGAAGGGA
 25 CTGGAATAC TCACATGTGT CTGTCTCCCT TATTAGGTTT AAAGTCCCTC AAGACCCTGT CTCCATCACA
 GTGCTCCAGT CCAGACCCCT CCTCTGAGCT CCAGACCCTG CTGGACCCAA CCAGCCCTAT GGGGTGCGAT
 CCCACCTGC CTGGAATTCT CCAAAGAACC TCCCCTTTAA CAGTTCCAGC CTTTAAACAGT TCCAGTCTAA
 ACACATGACC TTCTCTCTCT AAATCAGGCC CCCATCTCTG CCTTTCAGG AGATGGAAGC CATGACACCT
 GCCTCGCCCC TGTCTCTACC CCATCCATGT CCAATCAAGC ACTAGGCATG TCAGGTTTAC CCTCTAAACT
 30 CCTCTGGAAT CCAC TCTCTC AGTCTCCATC ATCCCAGGTC GAAGCTAATG GGCTAACTGG TCCTTGCTTC
 CACTCTACCC CCAC TGCAGT CCTGACTTCC TGAGCAGCAG CCAGGGCCTA ATCGATATTC ACACCAAGCG
 CCAACCTGAC TGACATATCC TCCTGCACCA TCATCCCTCC ACCCTGTTTA GTTCTGCTCA CCCTCAGTGT
 TCTCATCAAT AATCCACTCC CCTCAGAGGC GCGTTTGGGA CCCCATGTTT TATGCTCTCA CAGGACCTTT
 TGCTTGATTT TTCA CTGTAC TTAGGTCAGT TTGCAATTAT TAAGTGAAGT AGCAATGTCT GGCTTCTCCA
 35 GTAGACTGTC AGCTCCTAGC CATTGTATAC CTAGACCCGC TGTGTGGGAG CACGTGACAA ACGTCCAGTG
 AGTCAGGAGC TCACAGTCTT CCATTTCTCC GCGCTGTGG AGAATGCGTG TATTGGTCAA TCCCAAGGCC
 CTGTGCCATC TAACCATCTT TTCTTCTCTG TTCAGCCAG GTGTGGCCTC ACTCACATCC CACTCTGAGT
 CCAAATGTTC TCTCCCTGGA AGATATCAAT GTTTCTGTCT GTTCGTGAGG ACTCCGTGCC CACCACGGCC
 TCTTTCAGGT GAGTCAAAGG GATTCTCTAG TTTACTAGTT AGGGGAGGTG GGCAGACACC CTGGAGAACT
 40 CCCTGGAAG CTCAACTCTC ATGCCCCGGA CAACAGTTGA AGGAACCATG GTGATGTTAA GCCCAAAGAC
 AAAACCTCTC AGGTGTCCAA GTCCCTGTTG GAATCTTGGG AGCAGAGGGA ATGTTCTGTG GTCTAGAGGA
 AGAGGGGGCTC AGGGAGGAGA AGGGCACATT CTGGTTGTT ATATGTTTCT ATCTATCCCA GATGAACCTG
 GAAGTGAAGG GAAGAGAGTT AAACATTAAA GTAAATACCC AGTGGATCAG ACAGCAATGT GCCAGATTGC
 CTTGGAACAA AAAATATCTC AACACATGGC TGACATTTGG TGGGAGATCA GAACACCTTA AAGAGAGAAAT
 45 TTAAGGGGAG GGGCAGGAGG ACCTGAGCCA GAGTAGAAGC AGAGGATAGG GAGATCTGTT CTGAGGAGCA
 GCATTTGCAA GAA/ CAAGGC TGAGGGGTCC ACTCCAACCT CTCCACCCTG CTGCAGGTGC TGCCTATGAT
 GAAGATGAGC AGA/ GGCCAT CTCAGCTGGG GCCACAGTGC ACTGGACCTA TAGTTTCCAA TTCCGCACTC
 AGCAGGCATC TTTCTGATGA TCCGATGGCT TCTCAGAGCC AGGGATGGGC CAGGATCCAT CCCCTTGGCT
 ACTGCTTGTG TGAGAAATTT ATAAGCAGCA TCTGGTGCTA TACTTTGGTC TCTAGTGAGT TAGCTCATGA
 50 AAGATGATAG ACTCTCCAAG CCAGGGGTAT GCAGGAAATG GGTTTTCTGT AGCTACAGAA ATGGGGTTGA
 GGGTTGGAAC AAGC GACTAC CCAGGGGAAG TCTTACCTTC AGAGGACTCT GGAAAGGAGG CTGCAAGTTT
 TCATGGGTCA AGA/ TTCAGA GCCCAGTAGA GACAGCTTAT CTCTGTTCCA AGATGTCTGG GGCCTTGGTT
 GGAAGATTCA AAGC CTAGGA AACCAGGAGC CACCAAAAGC GTAAGTGGG CCAGAGGATC CACTTTCAAG
 GTGGCAAGTT GGTTCCTCCC ATGTGGCTGC TTGAGTATCC TCACATGGCG GCTCACATCC TTCCAAGTAA
 55 GCAATGCAAA AGGC/CAAGAA AGATGCTGCA AAGATGTTAT GACCTAGCCT CAGAAATCAC ACACCATCCC
 TGCCACCATT AGTAAGAAGT CCAGCCCACG TCCAGGAGAA GAGGAAGCAG ATTCTCTCTT TTGAAATGAA
 GAATATCAAG TAATTCGGGG GGCATATGAA AGCCACCACA CACCACAGGG ATCTTTTCTAG AGCATACTTC
 TTATACCATC ACTGTAGTTC CTTAAGACTC AGGGGCAAG CCTCACTTCC TTAGCACCCA GTGAAGACCA
 CGCTTACTCC CTCACCTAAC CTCTTGCTAC TTCCCACTC TCCTGTCCAA CATCTAGTGT CATTTCCAG
 60 AACATACCAA CAGCTTCCCC AGTTCTGTGC CTCTGCTCAG GCTGTTCCCC CTGCCTGGTC CACTTGTCTT
 CCTTCTGTG CCGGT/AAAAT GCTTCTTATC CTTCAAGACC CAGCTCTAGA GTCACCTCCA ACCCTTACC
 CACCAGCCCC CTCTCCAAGT CTGTGTCCCA CAACCCCTCT GCTCCCTCCA GGGCACCTC CACCCTCTGG

094949 "040400

GCCACAGTTG TCACGAGTCA GGCAGGGCAG GGGCCGGGTG GTGTCTTCTT TGTGTTCTTG CACTCAGGGC
 AGAGCTCAGC ACACAGCAGA CGCTCAAAAA ACATTTAAAG GATAGAAGCA TTGATTGTG GGTCCCCCAG
 TCTGGCTCCA GGATGCCAGC CAGCTGCTCC TAGAAGCAAA CGGACTTTTC CTGGGAAATC CCAGAGGTGA
 TGATCAGTAA TCTCTCCCGT GACTCGTAGT TCAGCTCTTC CTCCATGAGC CTGACTATCA GTGGACCTTC
 5 CAGAAAGAGC CCCTTTCTCT TCTCTCACCC ACAGCACAGG GCACTGGGAA AATGCCCAAT GAGTCTTGCC
 TCTGGGTTGT GCTTGGGACT TTTCAGTGTG TCTCGCATCC ACTCTTCAAC TTGAATGTTG CAACAGCCAT
 GAAAAAAGAA ATGC/AAAGCG ATTCAAGGATG AGAGCAATAC CCTACTCCAA AGAAGGCAAC ATAGAAGCTC
 AGAGAGATCA AGCA/ATTTGC CCAAGACCAC ACAGCTAGGA GTGGA/ACTCA TGGCTGTCCA AGCCCCATGC
 CTCTGCTGAA GGTAGAGATG AATTACAGCA ACAAGTCTAG AAAGGTGCCT GCCCTATGGT CTGTGAGTCT
 10 TGCCTAAGAA TGAAAGAGGA GCCAGTGGGT TAAAGATGAG GTCACCAACA ACGGTGGTGT TGGAGTTTAC
 CACTGATAAT AAGC GTGCAA AATGTA/ATTT ACTAATGTTT ATTGAGCCTA GTGCAGTGC GTGGGCATT
 TGCACATTGT CTCT/ATCCC TATGACAACC CTGAGAGGTA GTGGTTTAA CTGCCATTGT CTGGAGTGAGG
 TCAATTGTTG TCAA/AGACGT TAAGTA/ACTT CCCCAGCGTG ACACGGCTTA TAAGTAAGGC AGCCAGGATG
 TGAACCCAGT AGGA/CTATCT GGCTGCA/AA TCCCCACCCC CCTCGCCATC TGTATCCTCC AATCACTTCA
 15 GTGCTTTGCT GCAT/AGAAG TAACGGAAAT CACGATGCCA CAGACTGTCC AGGAAGACAG AA/ACTAGGCA
 GATGGGCTGG CCA/TTGGTCTC CAAGCCAGAC TGGAA/CTCC AGGTCTGGAA TGATATCATT TTTCTCTTTT
 AATAAATTAA CTCACCCACC ACACGGCTTT GAGAGGCTCA AAGTTGACCA ACTCCCTTGG GAGGGCCCCG
 GTTGATAAGG AAGC/AACGTG AATCCTCCCA TCACGGAAAG TTCAAGGAGG TCAAGGGTCC AACACTTGAG
 ATTTGTTAGTG CTGT/IGGTGG ATACTGGCCA AGGAAATATC CCAGTGGAGC CTCGAGATGA AGA/ACATGAG
 20 GCCCCCGTTT AGAA/CCAAGG ATCAGAGGGG GCTCTGTAAAG ACCCAGGGGA GTCAGGTGCA AAACCATGTC
 GGCATGCAGA AAA/CAGCCTG AGCTCCACCT CGGCTTCTCC TTGTCTTGGC TGGTTGTCT TAACCCCTGT
 CTCCTTCTGG ACCAGTTTTT GTCCTTCCCT TGTGACCGCT GAGGGGTAAC AGCCTCTTTC CACTTTCTTT
 CAGCGCCGAC ATGC/TCAATG TCACCTTGCA AGGGCCCACT CTTAACGGGA CCTTTGCCCA GAGCAAATGC
 CCCCAGTGG AGTC/GCTGGG CTGGCTCAAC ACCATCCAGC CCCCCTTCCT CTGGGTGCTG TTCGTGCTGG
 25 CCACCTAGA GAA/ATCTTT GTCTCAGCG TCTTCTGCCT GCACAAGAGC AGCTGCACGG TGGCAGAGAT
 CTACCTGGGG AACCTGGCCG CAGCAGACCT GATCCTGGCC TGCGGGCTGC CCTTCTGGGC CATCACCATC
 TCCAACAAT TCGACTGGCT CTTTGGGGAG ACGCTCTGCC GCGTGGTGAA TGCCATTATC TCCATGAACC
 TGTACAGCAG CATCTGTTTC CTGATGCTGG TGAGCATCGA CCGCTACCTG GCCCTGGTGA AAACCATGTC
 30 CATGGGCCGG ATGC/GCGGCG TGCGCTGGGC CAAGCTCTAC AGCTTGGTGA TCTGGGGGTG TACGCTGCTC
 CTGAGCTCAC CCAT/CTGGT GTTCCGGACC ATGAAGGAGT ACAGCGATGA GGGCCACAAC GTCACCGCTT
 GTGTATCAG CTACCCATCC CTCATCTGGG AAGTGTTCAC CAACATGCTC CTGAATGTG TGGGCTTCTC
 GCTGCCCTG AGTGTATCA CTTTCTGCAC GATGCAGATC ATGCAGGTGC TGC/GGAACAA CGAGATGCAG
 AAGTTCAAGG AGAT/CCAGAC GGAGAGGAGG GCCACGGTGC TAGTCTGGT TGTGCTGCTG CTATTCATCA
 35 TCTGCTGGCT GCCCITCCAG ATCAGCACCT TCCTGGATAC GCTGCATCGC CTCGGCATCC TCTCCAGCTG
 CCAGGACGAG CGCA/TCATCG ATGTAATCAC CTGATCGCC TCCTTCATGG TCCTACAGCA CAGGTGCCTC
 AACCCACTGG TGTACGTGAT CGTGGGCAAG CGTTCCGAA AGAAGTCTTG GGAGGTGTAC CAGGAGGTG
 GCCAGAAAGG GGGCTGCAGG TCAGA/ACCCA TTCAGATGGA GAACTCCATG GGCACACTGC GGACCTCCAT
 CTCCGTGGAA CGCCAGATTC ACAA/ACTGCA GGACTGGGCA GGGAGCAGAC AGTGAGCAAA CGCCAGCAGG
 40 GCTGCTGTGA ATTT/TTGTAA GGATTGAGGG ACAGTTGCTT TTCAGCATGG GCCCAGGAAT GCCAAGGAGA
 CATCTATGCA CGACCTTGGG AAATGAGTTG ATGTCTCCGG TAAAACACCG GAGACTAATT CCTGCCTGC
 CCAATTTTGC AGGGAGCATG GCTGTGAGGA TGGGGTGAAC TCACGCACAG CCAAGGACTC CAAAATCACA
 ACAGCATTAC TGTTCTTATT TGCTGCCACA CCTGAGCAG CCTGTCTCTT CCCAGGAGTG GAGGAGGCCT
 GGGGGCAGGG AGA/AGAGTG CTGAGCTTCC TCCCCGTGTG TTCTCCGTCC CTGCCCCAGC AAGACA/ACTT
 45 AGATCTCCAG GAG/ACTGCC ATCCAGCTTT GGTGCAATGG CTGAGTGCAC AAGTGAGTTG TTGCCCTGGG
 TTTCTTTAAT CTAT/TCAGCT AGAACTTTGA AGGACA/TTT CTTGCATTAA TAAAGGTTAA GCCCTGAGGG
 GTCCCTGATA ACAACCTGGA GACCAGGATT TTATGGCTCC CCTCACTGAT GGACAAGGAG GTCTGTGCCA
 AAGAAGAATC CAA/TAAGCAC ATATTGAGCA CTTGTGTAT ATGCAGTATT GAGCACTGTA GGCAAGAGGG
 AAGAAAGAGA AGGA/GCCATC TCCATCTTGA AGGAACTCAA AGACTCAAGT GGGAAACGACT GGGCACTGCC
 50 ACCACAGAA AGCTGTTTCA TGAGACGGTC GAGCAGGGTG CTGTGGGTGA TATGGACAGC AGAAGGGGGA
 GCCAGGTTCC AGCTACCAA TACTATTGCA CACCACCTGT CTGCCTC-3' (FRAG.NO:2275) (SEQ. D NO:2445)
 5'-CAGATTCACA AACTG/CAGGA CTGGGCAGGG AGCAGACAGT GAGCAAACGC CAGCAGGGCT GCTGTGAATT
 TGTGTAAGGA TTGAGGGACA GTTGCTTTTC AGCATGGGCC CAGGAATGCC AAGGAGACAT CTATGCACGA
 CCTTGGGAAA TGAC TTGATG TCTCCGGTAA AACACCGGAG ACTAATTCCT GCCCTGCCCA ATTTTGCAGG
 55 GAGCATGGCT GTGAGGATGG GGTGAACTCA CGCACAGCCA AGGACTCCAA AATCACAACA GCATTACTGT
 TCTTATTTGC TGCCA/CACCT GAGCCAGCCT GTCCTTCCC AGGAGTGGAG GAGGCCTGGG GGGAGGGAGA
 GGAGTGACTG AGCTTCCCTC CCGTGTGTTT TCCGTCCCTG CCCCAGCAAG ACAACTTAGA TCTCCAGGAG
 AACTGCCATC CAGCTTTGGT GCAATGGCTG AGTGCACAA TGAGTTGTTG CCCTGGGTTT CTTTAATCTA
 TTAGCTAGA ACTTTGAAGG ACAATTTCTT AGTTAATAA AGGTTAAGCC CTGAGGGGTC CTGATAACA
 60 ACCTGGAGAC CAGC/ATTTTA TGGCTCCCC TACTGATGGA CAAGGAGGTC TGTGCCAAAG AAGAATCCAA
 TAAGCACATA TTGAGCACTT GCTGTATATG CAGTATTGAG CACTGTAGGC AAGACCCAAG AAAGAGAAGG
 AGCCATCTCC ATCT/TAAGG AACTCAAAGA CTCAAGTGGG AACGACTGGG CACTGCCACC ACCAGAAAGC
 TGTTTCAGCA GACGGTCGAG CAGGGTGCTG TGGGTGATAT GGACAGCAGA AGGGGGAGAC CAAGGTTCCA

004040 " 6294560

GCTCAACCAA TAACTATTGC ACAACCACCT GTCCCTGCCT CAGTTCCTT TTATGTAACA TGAAGTCGTT
 GTGAGGGTTA AAGCAGTAA CAGGTATATA GTACTTAGAA AAGCAAAGGG TGCTACGTAC ATGTGAGGCA
 TCATTACGCA GACGTAAGT GGATATGTTT ACTATAAGGA AAAGACACTG AGGTCTAGAA ATAGTCCGT
 GGAGCAGAAAT CAGTATTGGG AGCCGGTGGC GGTGTGAAGC ACCAGTGTCT GGACACACAGT AGGTGCTCAT
 5 TGGCTCCCTT CCACCTGTCA TTCCCACCAC CCTGAGGCC CAACCGCCAC ACACACAGGA GCATTGTGAG
 AGAAGGCCAT GTCCTCAAAG TCTGATTTGT GATGAGGCAG AGGAAGATAT TTCTAATCGG TCTTGCCAG
 AGGATCACAG TGCTGAGACC CCCACCACC AGCCGGTACC TGGGAAGGGG GAGAGTGCAG GCCTGCTCAG
 GGACTGTTC TGTCICAGCA ACCAAGGGAT TGTTCCTGTC AATCAATGGT TTATTGGAAG GTGGCCAGT
 ATGAGCCCTA GAAGAGTGTG AAAAGGAATG GCAATGGTGT TCACCATCGG CAGTGCCAGG GCAGACTCA
 10 TTCACTTGAT AAATTAATAT TTATTAGCTG GTTGAGAGC TAGAACCTGG AGAGCTAGAA CCTGGAGAAC
 TAGAACCTGG AGGGCTAGAA CCTGGAGAGG CTAGAACCAA GAAGGGCTAG AACCTGGAGG GGCTAGAACC
 TAGAGAAGCT AAAA CTTAG CTAGAAGCTG GAGGAGAGG ACCTGGAGGG CTGGAATCTG AAGGGCTAGA
 ACCTGGAGGG CTGGAATCTG GAGAGCTAGA ACCTGGAGGG CTAGAACCTG GAGGGCTAGA ACCTAGAAGG
 GCTAGAACCT GGAGGGCTGG AATCTGGAGA GCTAGAACCT GGAGGGCTAG AACCTGGAGG GCTAGAACCT
 15 AGAAGGGCTA GAACCTGGAG GGCTAGAACC TGGCAGGTTA GAACCTAGAA GGGCTAGAAC CTGGAGAGCC
 AGAACCTGGA GGGCTAGAAC CTGGAAGGGC TAGAACCTGT AGAGCTAGAA CATGGAGAGC TAGAACCCGG
 CAGGCTAGAA CCTGGCAAGC TAGAACCTGG AGGGAATGAA CCTGGAGGGC TAGAACCTGG AGAATGAGAA
 AAATTTACAT GGCAAAGAGC CCATAAATCC TGACCAATCC AACTCTGAAT TTAAAGCAA AAGCGTGA
 AAAAAATTG CTTCTTACC CCCAACCCAC TCTTTTTTCC CACCACCCAC TCTCTCTGCT CTCAGTAAGT
 20 ATCTGGAGGA AGAAACACAG TGAAAGAAAG AGTAAAAAAC ATTTAGTATT AGTATTAGAA TGAAGTCAAA
 CTGTGCCACA CATGCTGAAT GAAAAAAAAA AAAAAGAGGC TGTGTTTTGT CACACAGGGC AGTCATTGAG
 CACCAGAGCA CGTCATGGTC TGAGACTCTC TTAGGAGCAG AGCTCTGCCG CAATGGCCAT GTGGGGATCC
 ACACCTGGTC TGAGGGGCAA CTGAGTCTGC GGGAGAAGAG CGGCCCTATG CATGGTGTAG ATGCCCTGAT
 AAAGAACATC TGTCCTGTGA AAGACTCAAT GAGCTGTAT GTTGTAACA GGAAGCATTT CACATCCAAA
 25 CGAGAAAATC ATGTAACAT GTGCTTTTC TGTAGAGCAT AATAAATGGA TGAGGTTTTT GCAAAAAAAA
 AAAAAAAA-3' (FRAG. NO:2275) (SEQ. ID NO:2444)
 5'- GAGCTCTTCA ATATTTAGT GAAAGCTATA GATGAGGCTC CATAGGGGAT AAAGCACAGA CACACCTTTT
 CAGAGGGCTT GTGC ACTCTG GGCAGCCTGT CCATAGACCT CTGTCCCAA CTGGCAAGTC AGGAACTCC
 30 AGATTAAGGA GCCCAATGT GGTGAACAG CCAGGTGCAC AGATGAGTCA ACCACACAGC CAGGCCAGGG
 AGGGCCTTCA CTCAAGAGCC TACAGCCAGT TCACAGCCAA GCCAGGGCTA GCGCCAGGCC ACCCATAAAC
 TGATCTGAGA CTCTGTTTCC CTGTCTCCAT GATGATGGGA TCAGGCTTGA TTGCTGGTTT GTAGGCTTGT
 TATGAATCAA GTCACAGGGA AGAGGAGCTG ATGGGCTGGG GGGACGTCCT CTGGCCCTCC TGTCTCTTCC
 CCAGATCCAC TGGC CCACT CTATCTGTT CTCTTCTGAA GGAAGGGTTT TAAGGCTTCA AAAAAAATG
 TTTTGAAAGT CCCTGCCCTT TCCAGCTCCT ACCGTCTCAG CCCTGGGAGT GTAAAGTGCT GCAGATAGTT
 35 AGTAAGTCT TGAGCAAAAC TGAGAAAGCC AGCTGAGCC TTGACATGGG AGAAACCTCC GCCATACATC
 TCCGAAGAAA CGGC CGCGTG TCTCAGGGGA GCGCAAAAC CCGTACCCAG GAAACAGGAC AGCTTCTGCC
 ACTGTCGCCC TTGGGAGCCG TACGTGGCAT GACAAAGAAA TCCCAGGACT CCGCCTGCC ACCTGGCCAC
 CCTCTGTTA CACCTTCCGC GTAAACGCC ACTGTTTACA TCCAAACTC AGACACAAA TAACCACCTC
 AAGAAGATAA ATAA TGATAA GAAATAAATG TTACGCGAGG CAAATTTATT CACATGGGGC TTCCAGGCC
 40 ACTTTGTGGT CAGC GGGGAG GGACGTTTTT GCCGTCCAC GACTCCAACG GGCAGCCGGG CTACGCAAA
 CATGGAATC TTCCAGAGC CTCCCTGGCC CCCAGGGCTC AGAGGGTGGC AGAGCGGAGA GCGAAGGTGG
 CCGCAGCCTT CCCGCCCCA CAGCCAGCCT GGCTCCAGT GGGCAGGAGT GCAGAGCTCA CTGGAGGCG
 AGGGGGAAGT CCCAGGAGG CTGATGACAT CACTACCCAG CCCTTCAAAG ATGAGCTGTT CCCGCGCCA
 CTCCAGCTCT GGCTCTGGG CTCCGAGGAG GGGTGGGGAC GGTGGTGACG GTGGGGACAT CAGGCTGCCC
 45 CGCAGTACCA GGGAGCGACT GAAGTGCCA TGCCGCTTGC TCCGAGAAAG GTGGGTGCCG GGCAGGGGCT
 GCTCCAGCCG CTCACCTCT GCTGGGAGGA CAACTGTCC CAGCACAGAG GGAGGGAGGG AGGGCAGGCA
 GCGGGGAGAA GTTCCCTGT GGTCGTGGG AGTTGGGAAA AGTTCCCTC CTCCGAGG GAGG-3'
 (FRAG. NO:2275) (SEQ. ID NO:2443)
 5'- GCCCTTCAA GATGAGCTGT TCCCGCCGCC ACTCCAGCTC TGGCTTCTGG GCTCCGAGGA GGGTGGGGA
 50 CGGTGGTGAC GGTGCGGACA TCAGGTGCC CCGCAGTACC AGGGAGCGAC TGAAGTGCCC ATGCCGCTTG
 CTCCGAGAA GGTG GGTGCC GGGCAGGGG TGCTCCAGCC GCCTCACCTC TGCTGGGAGG ACAAATGTC
 CCAGCACAGA GGGA GGGAGG GAGGGCAGGC AGCGGGGAGA AGTTCCCTG TGGTCGTGGG GAGTT -3' (FRAG.
 NO:2275) (SEQ. ID NO:2442)
 5'- AAATGATAGA CCGTCAATAA TTGTAAAT GCTTTTAAA ATGAATGCTT TAAGCCGGGT GCAGTGCTC
 55 ACATCTGTAA TCCAGCACT TTGGAGCCGA GCGGGTGGAT TGTGTGAGGT CAGGAGTTCG AGACCAACCT
 GGCCAACATG GCAAAACCTC ACTCTTACC AAAAAACAA AAATTAGCCA GGCATGGTGG CAGGCACCTG
 TAGTCCAGC TACTAGGAG GCTGAGACAG GAGAATCGT TGAACCGGG AGGCAAGGTT CAGTGAGCC
 AAGATTACGC CATTGTACT CAGCCTGGGT GACAGAGAGA GACTCCGTCT CAAAAAATA AAAAAAATA
 AAAAAATTAC GCTCAACA CATGATCTCT CACCACTGTT GAATTTCTT TCTATGAGCC CAGGAGGGCC
 60 TCTCAGAGAG GAAAGCTCCT AGGTCTTCT TTCCCTCTG AACTCCCTG CCTGAAGGT TCAGAAGGAC
 TGTGCGTGCT CGTTGCATCC TTTGCAAGTG TCCAAACCT GATCCAGCT GTGCTTAGGG GTTCTGCAA
 ACCTTTTCCA GGTCTTAATT ACCTCCCACT TCATTCTCTG TTACCAACT CAGCTTTTG TTTTAGTGTG

Variable	Mean	SD
Age (years)	34.5	10.2
Gender (male/female)	18/12	
Marital status (married/single)	15/15	
Education (years)	12.5	2.1
Occupation (white/blue)	10/10	
Income (€1000/month)	1.5	0.8
Health status (good/poor)	12/13	
Smoking status (smoker/non-smoker)	8/14	
Alcohol consumption (yes/no)	10/13	
Exercise frequency (times/week)	2.5	1.5
Stress level (low/high)	1.5	0.5
Sleep quality (good/poor)	12/13	
Dietary habits (balanced/unbalanced)	10/13	
Family size (children)	1.5	1.0
Work-life balance (satisfied/dissatisfied)	10/13	
Life satisfaction (scale 1-10)	6.5	2.5
Perceived stress (scale 1-10)	4.5	2.0
Depression (yes/no)	8/14	
Anxiety (yes/no)	10/13	
Substance use (yes/no)	10/13	
Chronic conditions (yes/no)	10/13	
Healthcare utilization (times/year)	2.5	1.5
Health insurance (yes/no)	15/0	
Physical activity (minutes/week)	150	100
Mental health score (scale 1-10)	5.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0
Healthcare costs (€1000/year)	1.5	0.5
Health status (scale 1-10)	6.5	2.0
Life expectancy (years)	75	5
Quality of life (scale 1-10)	7.5	2.0

[illegible]

CAGGCTAGAA CCTGGCAAGC TAGAACCTGG AGGGAATGAA CCTGGAGGGC TAGAACCTGG AGAATGAGAA
 AAATTTACAT GGCAAAGAGC CCATAAATCC TGACCAATCC AACTCTGAAT TTAAAGCAA AAGCGTAAAA
 AAAAAGATTC CCTCTTACC CCCAACCCAC TCTTTTTC CACCACCCAC TCTCCTCTGC CTCAGTAAGT
 ATCTGGAGGA AGA²AACAGG TGAAAGAAGA AGTAAAAACC ATTTAGTATT AGTATTAGAA TGAAGTCAAA
 5 CTGTGCCACA CATGGTGAAT GAAAAAAAAA AAAAAGAGGC TGTGTTTGT CACACAGGGC AGTCATTAG
 CACCAGAGCA CGTCATGGTC TGAGACTCTC TTAGGAGCAG AGCTCTGCCG CAATGGCCAT GTGGGGATCC
 ACACCTGGTC TGAGGGGGCAA CTGAGTCTGC GGGAGAAGAG CGGCCCTATG CATGGTGTAG ATGCCCTGAT
 AAAGAACATC TGTCTGTGA AAGACTCAAT GAGCTGTTAT GTTGTAACA GGAAGCATTT CACATCCAAA
 CGAGAAAATC ATGTAAACAT GTGTCTTTTC TGTAGAGCAT AATAAATGGA TGAGGTTTTT GCAAAAAAAA
 10 AAAAAAAAAA -3' (FRAG. NO:) (SEQ. ID NO:2431)
 5'-GGTGBCBTTGBGCBTGTGCGGCGC-3' (FRAG. NO:2276) (SEQ. ID NO:2289)
 5'-GGTCCCGTTBBGBGTGGGCC-3' (FRAG. NO:2277) (SEQ. ID NO:2290)
 5'-GCCAGCCAGCCA(TCCACTTGGGGG-3' (FRAG. NO:2278) (SEQ. ID NO:2291)
 5'-GGGTGGCCAGCACGAACAGCACCCAGAGGAAGGGGGG-3' (FRAG. NO:2279) (SEQ. ID NO:2292)
 15 5'-GGCCAGAAGGGCAGCCGAGGCCAGGATCAGGTCTGCTGCGGCC-3'(FRAG.NO:2280)(SEQ.ID NO:2293)
 5'-GGAGATAATGGCA(TCACACGCGGC-3' (FRAG. NO:2281) (SEQ. ID NO:2294)
 5'-GGCCAGCGCACG(CGCGCATCCGGGCC-3' (FRAG. NO:2282) (SEQ. ID NO:2295)
 5'-GGTTCTGACCTGCAGCCCC-3' (FRAG. NO:2283) (SEQ. ID NO:2296)
 5'-GTCTCCTTGGCATTCTGGGGCC-3' (FRAG. NO:2284) (SEQ. ID NO:2297)
 20 5'-CAGTCACTCCTCTCCCTGCCCC-3' (FRAG. NO:2285) (SEQ. ID NO:2298)
 5'-CTTGCTGGGGCAGGACGG-3' (FRAG. NO:2286) (SEQ. ID NO:2299)
 5'-GGTGBCBTTGBGCEGTGCGGCGC-3' (FRAG. NO:2287) (SEQ. ID NO:2300)
 5'-GGTCCCGTTBBGBC TGGGCC-3' (FRAG. NO:2288) (SEQ. ID NO:2301)
 5'-GCCAGCCAGCCA(TCCACTTGGGGG-3' (FRAG. NO:2289) (SEQ. ID NO:2302)
 25 5'-GGGTGGCCAGCACGAACAGCACCCAGAGGAAGGGGGG-3' (FRAG. NO:2290) (SEQ. ID NO:2303)
 5'-GGCCAGAAGGGCAGCCGAGGCCAGGATCAGGTCTGCTGCGGCC-3'(FRAG.NO:2291)(SEQ.ID NO:2304)
 5'-GGAGATAATGGCA(TCACACGCGGC-3' (FRAG. NO:2292) (SEQ. ID NO:2305)
 5'-GGCCAGCGCACG(CGCGCATCCGGGCC-3' (FRAG. NO:2293) (SEQ. ID NO:2306)
 5'-GGTTCTGACCTGCAGCCCC-3' (FRAG. NO:2294) (SEQ. ID NO:2307)
 30 5'-GTCTCCTTGGCATTCTGGGGCC-3' (FRAG. NO:2295) (SEQ. ID NO:2308)
 5'-CAGTCACTCCTCTCCCTGCCCC-3' (FRAG. NO:2296) (SEQ. ID NO:2309)
 5'-CTTGCTGGGGCAGGACGG-3' (FRAG. NO:2297) (SEQ. ID NO:2310)
 5'-CCGTGTTGTCTGCTGCTG-3' (FRAG. NO:2298) (SEQ. ID NO:2311)
 5'-CCCGTTTGBGTTBGGC-3' (FRAG. NO:2299) (SEQ. ID NO:2312)
 35 5'-GCTCCBCCBTTCCTTTCTCC-3' (FRAG. NO:2300) (SEQ. ID NO:2313)
 5'-TTGTTTTCCGTTTCTTG-3' (FRAG. NO:2301) (SEQ. ID NO:2314)
 5'-CCGTCTGTGGTT-3' (FRAG. NO:2302) (SEQ. ID NO:2315)

β2 Adrenergic Receptor Kinase Nucleic Acids and Antisense Oligonucleotide Fragments

5'- GCCGCGCCG CCAAGATGGC GGACCTGGAG GCGGTGCTGG CCGACGTGAG CTACCTGATG GCCATGGAGA
 40 AGAGCAAGGC CACGCGGCC GCGCGGCCA GCAAGAAGAT ACTGCTGCC GAGCCAGCA TCCGAGTGT
 CATGCAGAAG TACCTGGAGG ACCGGGGCGA GGTGACCTT GAGAAGATCT TTCCCAGAA GCTGGGTAC
 CTGCTCTTCC GAGACTTCTG CCTGAACCAC CTGGAGGAGG CCAGGCCCTT GGTGGAATTC TATGAGGAGA
 TCAAGAAGTA CGACAAGCTG GAGACGGAGG AGGAGCGTGT GGCCCGCAGC CGGGAGATCT TCGACTCATA
 CATCATGAAG GAGCTGCTGG CCTGCTCGCA TCCCTTCTCG AAGAGTGCCA CTGAGCATGT CCAAGGCCAC
 45 CTGGGGAAGA AGCAGGTGCC TCCGATCTC TTCCAGCCAT ACATCGAAGA GATTGTCAA AACCTCCGAG
 GGGACGTGTT CCACAATTC ATTGAGAGCG ATAAGTTTAC ACGGTTTTGC CAGTGGAAGA ATGTGGAGCT
 CAACATCCAC CTGA²CCATGA ATGACTTCAG CGTGATCGC ATCATTGGGC GCGGGGGCTT TGGCGAGGTC
 TATGGGTGCC GGAAGGCTGA CACAGGCAAG ATGTACGCCA TGAAGTGCCT GGACAAAAAG CGCATCAAGA
 TGAAGCAGGG GGAAGCCCTG GCCTGAACG AGCGCATCAT GCTCTGCTC GTCAGACTG GGGACTGCCC
 50 ATTCATTGTC TGCAIGTCAT ACGCGTTCCA CACGCCAGAC AAGCTCAGCT TCATCCTGGA CCTCATGAAC
 GGTGGGGACC TGCACTACCA CCTCTCCAG CACGGGGTCT TCTCAGAGGC TGACATGCGC TTCTATGCGG
 CCGAGATCAT CCTGGGCCTG GAGCACATGC ACAACCGCTT CGTGGTCTAC CGGGACCTGA AGCCAGCCAA
 CATCCTTCTG GACGAGCATG GCCACGTGCG GATCTCGGAC CTGGGCCTGG CCTGTGACTT CTCCAAGAAG
 AAGCCCCATG CCACCGTGGG CACCCACGGG TACATGGCTC CGGAGGTCCT GCAGAAGGGC GTGGCCTACG
 55 ACAGCAGTGG CGACTGGTTC TCTCTGGGT GCATGCTCTT CAAGTTGCTG CGGGGGCACA GCCCCTCCG
 CAGCACAAG ACCAAGACA AGCATGAGAT CGACCGCATG ACGCTGACGA TGGCCGTGGA GCTGCCGAC
 TCCTTCTCCC CTGA²ACTACG CTCCCTGCTG GAGGGGTTC TGCAGAGGGA TGTCAACCGG AGATTGGGCT
 GCCTGGGCCG AGGGGCTCAG GAGGTGAAAG AGAGCCCTT TTTCCGCTCC CTGGACTGGC AGATGGTCTT
 CTTGCAGAAG TACCTCCCC CGCTGATCCC CCCACGAGGG GAGGTGAACG CGGCCGACGC CTTGACATT
 60 GGCTCCTTCG ATGAGGAGGA CACAAAAGGA ATCAAGTTAC TGGACAGTGA TCAGGAGCTC TACCGCAACT

004040" 62964560

Variable	Mean	SD
Age	34.5	10.2
Gender	Male	65.5
Marital status	Married	72.5
Education	High school	15.5
Occupation	Manager	12.5
Income	High	18.5
Health status	Good	78.5
Stress level	Low	15.5
Life satisfaction	High	85.5
Work-life balance	Good	75.5
Family support	High	88.5
Community involvement	High	82.5
Volunteer work	High	80.5
Charitable contributions	High	78.5
Philanthropic activities	High	75.5
Environmental activism	High	72.5
Animal welfare work	High	70.5
Human rights advocacy	High	68.5
Peacekeeping efforts	High	65.5
Disaster relief work	High	62.5
Healthcare volunteering	High	60.5
Educational support	High	58.5
Arts and culture activities	High	55.5
Sports and recreation	High	52.5
Gardening and landscaping	High	50.5
Home improvement projects	High	48.5
DIY projects	High	45.5
Cooking and baking	High	42.5
Handicrafts	High	40.5
Knitting and crocheting	High	38.5
Quilting	High	35.5
Woodworking	High	32.5
Painting and drawing	High	30.5
Photography	High	28.5
Writing and blogging	High	25.5
Podcasting	High	22.5
Vlogging	High	20.5
YouTube channel	High	18.5
Instagram account	High	15.5
Facebook page	High	12.5
Twitter account	High	10.5
LinkedIn profile	High	8.5
Professional website	High	5.5
Portfolio website	High	3.5
Online resume	High	2.5
Job application letters	High	1.5
Interview preparation	High	0.5
Networking events	High	0.5
Industry conferences	High	0.5
Trade shows	High	0.5
Networking groups	High	0.5
Professional associations	High	0.5
Industry newsletters	High	0.5
Webinars	High	0.5
Online courses	High	0.5
Workshops	High	0.5
Seminars	High	0.5
Conferences	High	0.5
Summits	High	0.5
Roundtables	High	0.5
Panel discussions	High	0.5
Keynote speeches	High	0.5
Networking opportunities	High	0.5
Collaborative projects	High	0.5
Joint ventures	High	0.5
Partnerships	High	0.5
Strategic alliances	High	0.5
Acquisitions	High	0.5
Mergers	High	0.5
Takeovers	High	0.5
Reacquisitions	High	0.5
Divestitures	High	0.5
Spin-offs	High	0.5
Joint ventures	High	0.5
Partnerships	High	0.5
Strategic alliances	High	0.5
Acquisitions	High	0.5
Mergers	High	0.5
Takeovers	High	0.5
Reacquisitions	High	0.5
Divestitures	High	0.5
Spin-offs	High	0.5
Joint ventures	High	0.5
Partnerships	High	0.5
Strategic alliances	High	0.5
Acquisitions	High	0.5
Mergers	High	0.5
Takeovers	High	0.5
Reacquisitions	High	0.5
Divestitures	High	0.5
Spin-offs	High	0.5
Joint ventures	High	0.5
Partnerships	High	0.5
Strategic alliances	High	0.5
Acquisitions	High	0.5
Mergers	High	0.5
Takeovers	High	0.5
Reacquisitions	High	0.5
Divestitures	High	0.5
Spin-offs	High	0.5
Joint ventures	High	0.5
Partnerships	High	0.5
Strategic alliances	High	0.5
Acquisitions	High	0.5
Mergers	High	0.5
Takeovers	High	0.5
Reacquisitions	High	0.5
Divestitures	High	0.5
Spin-offs	High	0.5
Joint ventures	High	0.5
Partnerships	High	0.5
Strategic alliances	High	0.5
Acquisitions	High	0.5
Mergers	High	0.5
Takeovers	High	0.5
Reacquisitions	High	0.5
Divestitures	High	0.5
Spin-offs	High	0.5
Joint ventures	High	0.5
Partnerships	High	0.5
Strategic alliances	High	0.5
Acquisitions	High	0.5
Mergers	High	0.5
Takeovers	High	0.5
Reacquisitions	High	0.5
Divestitures	High	0.5
Spin-offs	High	0.5
Joint ventures</		

CCAGTGTGGG TCCCAAGTTA GACGTCCTAG TCCTGAGTCC GTGTCCACAG TTCTGGGTGT TGAGTCTAGG
 ACAGTGATCT GGACITGACA GTCCAATCTA GGTCTGAGTC CTGACCCCAA GTCTAGAGTT CAGGGTCATG
 GTAGTAGCCT AGGCITCAGAA TCAAGGTTGG GGTACAGTAAC CAGGATGGGA TCGAGGTCAT GGTCCAAAAAT
 CTGGATCTGG GGACITGTTG GGGGTCTGAG GTGAGTGTG CAGTCTGGGT ATGGCGTTGG AGACCCAGGG
 5 CTGTGATCTG AGGTCATGGT TAGAGTCTCA GGTGGTGGGC CAAGGTTTGA GTCTGGGGTC CTGTTTGGAG
 TCTGGTGTCA GGTCTGGGAC TGCCTCCAAG GTCAGGGAGT CCGGGGTTAT AGCCAGGGTC TGAGATGAAA
 GTCCCAGATG GTGTCAGAG GTCTGAATCT GTGTCTTGGT GAGCGTCCAG GTTCCCTGTG ATCAGCTTTG
 GTGTCAAGGC TGCCGCCCGA CTGGGGAGCC TGGGATCCAG AGATGTGACC CGAGGTTGTG GTCAGAGAAT
 GGGTCTCGGG TCGTCTTCGT GCCGGGTCCC TGTCGTGTTT CAGGCCCGGG TCTCCGTCCA GCATCGAGGG
 10 CCGAGGTCAC GGCCAGGGTC TGAGCCCGCG GTCGCGAGTC TGGTTCGGGG TCAGATTCCG CGCGGCCCTCC
 AGGGGGCGCC GTCCGCCGCC GGCTCGGCC CTCGCGGGCT CGCTGGCGTT GTGCGCGGCA GGCGGGGCCG
 GAGGCGGCGG CGGCTCCGGG GCGCGCGGCG GCGCGCGGCG GCGCGCGGCG CCCCAGATGC AGTCCCGGCG
 GGAGCGGAGC GCGAAGCGCG GGGCCGGGCC CGAGCCGCGC GCCATGGGGC GGCGCCGCGT GTGAGCGGCG
 GCGAGCGGAG CCGCGGGCGC CGAGCAGGGC CAGGCGGGAG CGTCGGCGCC CGAGGCCGAG CGAGCCGCGG
 15 CCGGGCCGGG CCGAGCGGCC AGCGAGCAGG AGCGGCGGCG GCGGCGGCGG CGGCGGGAGG AGGCAGCGCC
 GCCGCCAAGA TGGCGGACCT GGAGCGGGTG CTGGCCGACG TGAGCTACCT GATGGCCATG GAGAAGAGCA
 AGGCCACGCC GGCCCGCGCG GCCAGCAAGA AGATACTGCT GCCCGAGCCC AGGTGAGGAG AAGCT-3' (FRAG.
 NO:) (SEQ. ID NO:24:9)
 5'-GCCGCGGCCG CCAAGATGGC GGACCTGGAG GCGGTGCTGG CCGACGTGAG CTACCTGATG GCCATGGAGA
 20 AGAGCAAGGC CACGCCGCC GCGCGCGCCA GCAAGAAGAT ACTGCTGCCC GAGCCCAGCA TCCGCAGTGT
 CATGCAGAAG TACCTGGAGG ACCGGGGCGA GGTGACCTTT GAGAAAGATCT TTCCCAGAA GCTGGGGTAC
 CTGCTCTTCC GAGACTTCTG CCTGAACCAC CTGGAGGAGG CCAGGCCCTT GGTGGAATTC TATGAGGAGA
 TCAAGAAGTA CGACAAAGCTG GAGACGGAGG AGGAGCGTGT GGCCCGCAGC CGGGAGATCT TCGACTCATA
 25 CATCATGAAG GAGCTGCTGG CCTGCTCGCA TCCCTTCTCG AAGAGTGCCA CTGAGCATGT CCAAGGCCAC
 CTGGGGAAGA AGCAGGTGCC TCCGATCTC TTCCAGCCAT ACATCGAAGA GATTGTCAA AACCTCCGAG
 GGGACGTGTT CCACAAATTC ATTGAGAGCG ATAAGTTCAC ACGGTTTTGC CAGTGGAAGA ATGTGGAGCT
 CAACATCCAC CTGACCATGA ATGACTTCAG CGTGCATCGC ATCATTGGGC GCGGGGGCTT TGGCGAGGTC
 TATGGGTGCC GGAAAGGCTGA CACAGGCAAG ATGTACGCCA TGAAGTGCTT GGACAAAAAG CGCATCAAGA
 TGAAGCAGGG GGAGACCCTG GCCCTGAACG AGCGCATCAT GCTCTCGCTC GTCAGCACTG GGGACTGCCC
 30 ATTCATTGTC TGCAITGCAT ACGCGTTCCA CACGCCAGAC AAGCTCAGCT TCATCTGGA CCTCATGAAC
 GGTGGGGACC TGCACTACCA CCTTCCCAG CACGGGGTCT TCTCAGAGGC TGACATGCGC TTCTATGCGG
 CCGAGATCAT CTTGGGCTG GAGCACATGC ACAACCGCTT CGTGGTCTAC CGGGACCTGA AGCCAGCCAA
 CATCTTCTG GACGAGCATG GCCACGTGCG GATCTCGGAC CTGGGCTG CTTGTGACTT CTCAAGAAG
 AAGCCCCATG CCACCGTGGG CACCCACGGG TACATGGCTC CGGAGGTCCT GCAGAGGGC GTGGCTACG
 35 ACAGCAGTGC CGACTGGTTC TCTTGGGT TCTCTGCTT CAAGTTGCTG CGGGGGCACA GCCCCCTCCG
 GCAGCACAAG ACCAAAGACA AGCATGAGAT CGACCGCATG ACGCTGACGA TGGCCGTGGA GCTGCCGAC
 TCCTTCTCCC CTGAACACG CTCCCTGCTG GAGGGGTTGC TGCAGAGGGA TGTCAACCGG AGATTGGGCT
 GCCTGGGCCG AGGGGCTCAG GAGGTGAAAG AGAGCCCTT TTTCCGCTCC CTGGACTGGC AGATGGTCTT
 CTTGCAGAAG TACCTCCCC CGTGTATCCC CCCACGAGGG GAGGTGAACG CGGCCGACGC CTTGACATT
 40 GGCTCCTTCG ATGAGGAGGA CACAAAAGGA ATCAAGTTAC TGGACAGTGA TCAGGAGCTC TACCGCAACT
 TCCCCCTCAC CATCTCGGAG CCGTGGCAGC AGGAGGTGGC AGAGACTGTC TTCGACACCA TCAACGCTGA
 GACAGACCGT CTGCAGGCTC GCAAGAAAGC CAAGAACAAG CAGCTGGGCC ATGAGGAAGA CTACGCCCTG
 GGCAAGGACT GCAATCATGA TGGTACATG TCCAAGATGG GCAACCCCTT CCTGACCCAG TGGCAGCGGC
 GGTACTTCTA CTTGTTCCCC AACCGCCTCG AGTGGCGGGG CGAGGGCGAG GCCCGCAGA GCCTGCTGAC
 45 CATGGAGGAG ATCCAGTCGG TGGAGGAGAC GCAGATCAAG GAGCGCAAGT GCCTGCTCCT CAAGATCCGC
 GGTGGGAAAC AGTTTATTTT GCAGTGCAT AGCGACCCTG AGCTGGTGCA GTGGAAGAAG GAGTGCAGC
 ACGCCTACG CGACGCCAG CAGCTGGTGC AGCGGGTGCC CAAGATGAAG AACAGCCGC GCTCGCCCGT
 GGTGGAGCTG AGCAAGGTGC CGCTGGTCCA GCGCGGCAGT GCCAACGGCC TGTGACCCGC CCACCCGCT-3'
 (FRAG. NO:) (SEQ. ID NO:2428)

50 CCR-2 CC Chemoline Receptor Nucleic Acids and Antisense Oligonucleotide Fragments

5'-CTTTGTGAAG AAGGAATTGG CAACACTGAA ACCTCCAGAA CAAAGGCTGT CACTAAGGTC CCGCTGCCTT
 GATGGATTAT ACACCTGACC TCAGTGTGAC AACAGTGACC GACTACTACT ACCCTGATAT CTTCTCAAGC
 CCCTGTGATG CGGAACCTTAT TCAGACAAAT GGCAAGTTGC TCCTTGCTGT CTTTATTGTC CTCCTGTTG
 TATTAGTCT TCTGAGAAAC AGCCTGGTCA TCCTGGTCTT TGTGGTCTGC AAGAAGCTGA GGAGCATCAC
 55 AGATGTATAC CTCITGAACC TGGCCCTGTC TGACCTGCTT TTTGTCTTCT CTTCCCTTAT TCAGACCTAC
 TATCTGCTGG ACCAGTGGGT GTTGGGAGT GTAATGTGCA AAGTGGTGTG TGGCTTTTAT TACATTGGCT
 TCTACAGCAG CATCTTTTTC ATCACCCTCA TGAGTGTGGA CAGGTACCTG GCTGTGTGCC ATGCCGTGTA
 TGCCCTAAAG GTGAGGACGA TCAGGATGGG CACAACGCTG TGCCTGGCAG TATGGCTAAC CGCCATTATG
 GCTACCATCC CATGTCTAGT GTTTTACCAA GTGGCCTCTG AAGATGGTGT TCTACAGTGT TATTATTTT
 60 ACAATCAACA GACTTGAAG TGGAAGATCT TCACCAACTT CAAAATGAAC ATTTTAGGCT TGTGATCCC
 ATTCACCATC TTATGTTCT GCTACATTAA AATCCTGCAC CAGCTGAAGA GGTGTCAAAA CCACAACAAG

ACCAAGGCCA TCAAGTTGGT GCTCATTGTG GTCATTGCAT CTTTACTTTT CTGGGTCCCA TTCAACGTGG
 TTCTTTTCCT CACT`CCTTG CACAGTATGC ACATCTTGGA TGGATGTAGC ATAAGCCAAC AGCTGACTTA
 TGCCACCCAT GTCAGAGAA TCATTTCCTT TACTCACTGC TGTGTGAACC CTGTTATCTA TGCTTTTGT
 GGGGAGAAGT TCAAGAAACA CCTCTCAGAA ATATTTTCAGA AAAGTTGCAG CCAAATCTTC AACTACCTAG
 5 GAAGACAAAT GCCTAGGGAG AGCTGTGAAA AGTCATCATC CTGCCAGCAG CACTCTCCC GTTCTCCAG
 CGTAGACTAC ATTTTGTGAG GATCAATGAA GACTAAATAT AAAAAACATT TTCTGAATG GCATGCTAGT
 AGCAGTGAGC AAAGGTGTGG GTGTGAAAGG TTTCCAAAAA AAGTTCAGCA TGAAGGATGC CGTGTGTGTT
 GTTGCCAAACA CTTGGAACAC AATGACTGGA GACATAGTTG TGCATGCCTG GCACAACATC AAGCCTGTGA
 TTGTGTTTAT TGATGATGTT GAACAAGTGG TGGCTTTGAG GGATTCTGTA TGCCAAGTGG AAAAAAAGA
 10 TGTCTCCGGA ATTCGACAGG TTATCA-3' (FRAG. NO:) (SEQ. ID NO:2462)

CCR-4 CC Chemokine Receptor Nucleic Acids and Antisense Oligonucleotide Fragments

5'-TTTCATCTCT CCCGGCTTAT TTGCTGGTTT CTCCGAATGC GGGCCTTGTC TGGTTCACGC TGGATCCCCA
 ACGCCTAGAA CAGT`GCGTGG CACGCAGTTC GTCCTTCTAT AAATATCGGA CTAAATGCAT CTCTGTGATG
 GTAATACCCA CACCGTGTG TGAGAATGAA TGAGTGATTG TGTGCAAGTT CTTAGTGATC TGTTACAAAA
 15 AGTACTGGTC GCTAAATTAC TCTTATAATA AAGCATACTT TTAGGATAAT AAAGCACTAT TCGCGAATTG
 GTTACCCTA TTATGAAATT ACTGAGCAAT ACATATCTAC ATCTGATCAG TCTCCAGAAT TATGCCAAAT
 CCTACCTCT TCTGAAAGTA TCTCCTAATT ATCTGCACCT GACCCTAGTG ATGCTGTGAA TGTGCAAGTA
 TAGCTACATC CTCCGAAGGA AGGATCTTTA CTCCTTTTAC CTCCTGAATG GGCTGCGTCT GAGGGAAGCG
 CGGGGGAATG GGGGTTTGA AGCTTGGCCC TACTTCCAGC ATTGCCGCCT ACTGGTTGGG TTACTCCAGC
 20 AAGTCACTCC CCTTCCCTGG GCCTCAGTGT CTCTACTGTA GCATTCCCAG GTCTGGAATT CCATCCACTT
 TAGCAAGGAT GGACGCGCCA CAGAGAGACG CGTTCCTAGC CCGCGCTTCC CACCTGTCTT CAGGCGCATC
 CCGCTTCCCT CAAACTTAGG AAATGCCTCT GGGAGGTCTT GTCCGGCTCC GGACTCACTA CCGACCACCC
 GCAAACAGCA GGG`CCCCTG GGCTTCCCAA GCCGCGCACC TCTCCGCCCT GCGCCTGCGC CCTCTTCT
 CGCGTCTGCC CCTTCCCCC ACCCGCCTT CTCCTCCCC GCGCCAGCGG CGCATGCGCC GCGCTCGGAG
 25 CGTGTTTTAA TAAAGTCCG GCGCGGCCA GAAACTTCAG TTTGTTGGCT GCGGCAGCAG GTAGCAAAGT
 GACGCCGAGG GCGT`GAGTGC TCCAGTAGCC ACCGCATCTG GAGAACCAGC GGTACCATG GAGGGGATCA
 GTGTAAGTCC AGTITCAACC TGCTTTGTCA TAAATGTACA AACGTTTGAA CTTAGAGCGC AGCCCTCTC
 CGAGCGGGCA GAAAGCGCCA GGACATTGGA GGTACCCGTA CTCCAAAAA GGGTCACCGA AAGGAGTTTT
 CTTGACCATG CCTATATAGT GCGGGTGGGT GGGGGGGGAG CAGGATTGGA ATCTTTTCT CTGTGAGTCG
 30 AGGAGAAACG ACTG`GAAAGA GCGTTCCAGT GGCTGCATGT GTCTCCCCCT TGAGTCCCGC CGCGCGCGGC
 GGCTTGACG CTGTTTGCAA ACGTAAGAAC ATTCTGTGCA CAAGTGCGA GAAGGCGTGC GCGCTGCCCT
 GGGACTCAGA CCACCGGTCT CTCTCTTGGG GAAGCGGGGA TGTCTTGGAG CGAGTTACAT TGTCTGAATT
 TAGAGCGGGA GCGT`GGCGTG CCTGGGCTGA TCTCCAGGA GGAGATTGCG CCGCTTTAA CTTCGGGGTT
 AAGCGCCTGG TGACT`GTTCT TGACACTGGG TGCGTGTGTT TTAAGCTCTG TGCGGCCGAC GGAGGTGTG
 35 CAGTCTCCCA GCACAGTAGG CAGAGGGCGG GAGAGGCGGG TGGACCCACC GCGCCGATCC TCTGAGGGGA
 TCGAGTGGTG GCACAGCTA GGAGTTGATC CGCCCGCGCG CTTTGGGTTT GAGGGGAAA CCTTCCCGCC
 GTCCGAAGCG GCGT`TCTTCC CCACGGCCGC GAGTGGGTCC TGCAGTTCGA GAGTTTGGGG TCGTGACAGAG
 GTCAGCGGAG TGGT`TTGACC TCCCTTTGA CACCGCGCAG CTGCCAGCCC TGAGATTGTC GTCCGGGGA
 TAGGAGCGGG TACC`GGGTGA GGGGCGGGGG CGGTTAAGAC CGCACCCTGG CTGCCAGGTG GCCGCCGCGA
 40 AGACTCCGAG GTGCAAGTGG GGAACCCGTT TGGCTCTCTC CGAGTCCAGT TGTGATGTT AACCGTCGGT
 GGTTTCCAGA AAC`TTTTGA AACCTCTTG CTAGGAGATT TTTGGTTCC TGACGCGCG GCAATTCAA
 AGACGCTCGC GGCC`GAGCCG CCCAGTCGCT CCCCAGCACC CTGTGGGACA GAGCCTGGCG TGTGCCCCAG
 CGGAGCCCT GCAC`CGCTGC TTGCGGGCGG TTGGCGTGGG TGTAAGTGGC AGCCGCGCG GCGCGGGCT
 GGACGACCCG GCGC`CCCGCG TGCCACCGC CTGGAGGCTT CCAGCTGCCC ACCTCCGGCC GGGTTAACTG
 45 GATCAGTGGC GGGG`TAATGG GAAGCCACCC GGGAGAGTGA GGAAATGAAA CTGGGGCGA GGACCACGGG
 TGCAGACCCC GTTAC`CTTCT CCACCCAGGA AAATGCCCG CTCCTAACG TCCCAAACGC GCCAAGTGAT
 AAACACGAGG ATGCA`CAGAG ACCCACACAC CGGAGGAGCG CCCGCTTGGG GGAGGAGGTG CCGTTTGTTC
 ATTTCTGAC ACTC`CGCCC AATATACCC AAGCAGGAA GGGCCTTCGT TTTAAGACCG CATTCTCTT
 ACCACTACA AGTIG`CTTGA AGCCAGAAAT GGTTTGATT TAGGCAGGCG TGGGAAAATT AAGTTTTTGC
 50 GCTTTAGGAG AATG`AGTCTT TGCAACGCCC CCGCCCTCCC CCGTGATCC TCCCTTCTCC CCTCTTCCCT
 CCCTGGGCGA AAAA`CTTCTT AAAAAAGTT AATCACTGCC CCTCTAGCA GCACCCACCC CACCCCCAC
 GCGCCTGGG AGTG`GCTCTT TTGTGTGTAT TTTTTTTTCT CTCCTAAGGA AGGTTTTTTT TCTTCCCTCT
 AGTGGGCGGG GCAG`AGGAGT TAGCCAAGAT GTGACTTTGA AACCTCAGC GTCTCAGTGC CCTTTTGTTC
 TAAACAAAGA ATTT`TGTAAT TGGTCTTACC AAAGAAGGAT ATAATGAAGT CACTATGGGA AAAGATGGGG
 55 AGGAGAGTTG TAGG`ATTCTA CATTAAATCT CTTGTGCCCT TAGCCACTA CTTGAGAAAT TCCTGAAGAA
 AGCAAGCCTG AAT`GGTTT TTAAGTTGCT TTAAGAAAT TTTTAACTG TTTTAACTG GGTAAATGCT TGCTGAATTG
 GAAGTGAATG TCC`TTCTT TGCTCTTTT GCAGATATAC ACTTCAGATA ACTACACCGA GGAATGAGG
 TCAGGGGACT ATGA`CTCCAT GAAGGAACCC TGTTTCCGTG AAGAAAATGC TAATTTCAAT AAAATCTTCC
 TGCCACCAT CTACT`CCATC ATCTTCTTAA CTGGCATTGT GGGCAATGGA TTGGTCATCC TGGTCATGGG
 60 TTACCAGAAG AAAC`TGAGAA GCATGACGGA CAAGTACAGG CTGCACCTGT CAGTGGCGA CCTCTCTTT
 GTCATCACGC TTCC`TCTG GGCAGTTGAT GCCGTGGCAA ACTGGTACTT TGGGAACCTC CTATGCAAGG

004090 6494560

CAGTCCATGT CATCTACACA GTCAACCTCT ACAGCAGTGT CCTCATCCTG GCCTTCATCA GTCTGGACCG
 CTACCTGGCC ATCGTCCACG CCACCAACAG TCAGAGGCCA AGGAAGCTGT TGGCTGAAAA GGTGGTCTAT
 GTTGGCGTCT GGAATCCCTGC CCTCTGCTG ACTATTCCCG ACTTCATCTT TGCCAACGTC AGTGAGGCAG
 5 ATGACAGATA TATCTGTGAC CGCTTCTACC GCAATGACTT GTGGGTGGTT GTGTTCCAGT TTCAGCACAT
 CATGGTTGGC CTTATCTCTGC CTGGTATTGT CATCTGTCC TGCTATTGCA TTATCATCTC CAAGCTGTCA
 CACTCCAAGG GCCACAGAA GCGCAAGGCC CTCAAGACCA CAGTCATCCT CATCCTGGCT TTCTTCGCTT
 GTTGGCTGCC TTACTACATT GGGATCAGCA TCGACTCCTT CATCCTCCTG GAAATCATCA AGCAAGGGTG
 TGAGTTTGAG AACACTGTGC ACAAGTGGAT TTCCATCACC GAGGCCCTAG CTTTCTTCCA CTGTTGTCTG
 10 AACCCCATCC TCTATGCTTT CCTTGGAGCC AAATTTAAAA CCTCTGCCCA GCACGCACTC ACCTCTGTGA
 GCAGAGGGTC CAGCTCAAG ATCCTCTCCA AAGGAAAGCG AGGTGGACAT TCATCTGTTT CCACTGAGTC
 TGAGTCTTCA AGTITTCCT CCAGCTAACA CAGATGTAAA AGACTTTTTT TTATACGATA AATAACTTTT
 TTTTAAGTTA CACA TTTTTC AGATATAAAA GACTGACCAA TATTGTACAG TTTTATTGCT TTGTTGGATT
 TTTGTCTTGT GTTTCTTTAG TTTTGTGAA GTTTAATTGA CTTATTTATA TAAATTTTTT TTGTTTCATA
 TTGATGTGTG TCTAGGCAGG ACCTGTGGCC AAGTCTTAG TTGCTGTATG TCTCGTGGTA GGACTGTAGA
 15 AAAGGGAAGT GAACATTCCA GAGCGTGTAG TGAATCACGT AAAGCTAGAA ATGATCCCCA GCTGTTTATG
 CATAGATAAT CTCCTCATTC CCGTGAACG TTTTCTCTGT TCTTAAGACG TGATTTTGCT GTAGAAGATG
 GCACTTATAA CCAAGGCCA AAGTGGTATA GAAATGCTGG TTTTTCAGTT TTCAGGAGTG GGTTGATTTC
 AGCACCTACA GTGTACAGTC TTGTATTAAG TTGTTAATAA AAGTACATGT TAAACTTACT TAGTGTATG
 TTCTGATTTT TGTTTACATT CTTTGGCTA GTAGAAGACA AAAGTAATAC ATTTATGGTA TGCAAAGCAC
 20 TATCTTAGGT ATTTCATTG AATATTTTAC TTACCCCTTA TCACAACCTC GATAGATTCT GCTTCTGTTA
 CTAATTACAT TTTATAGAAG AGGAAACGGA GGACAGAAA GCCTAAGTAA CTTGGTTAAA GGCATGTAGT
 AAGTATCAAA TCCGTGATTT TAAACCAGGT AACATGACTT AACGAATCTG AAGCCTTCAC CACTTTAAAT
 TCAATGGAAG GTTATAGAAAT GGCCAGCCAG CACCTATTTG TATGAAAGGT CATCTTTCAG AGGATAAGCA
 TGTATAAAGA AGAAAGGTA TGCAGTCGTG TTTGGATTTT ACTCCACCAT C-3' (FRAG. NO.:) (SEQ. ID NO: 2463)

25 CD-34 Nucleic Acids and Antisense Oligonucleotide Fragments

5'-AGGATGATGG TGATGGGGAA CTAAATGGGG AAATATGGAA GGTACAGGA AAAGTTAACA CAAGTTAGCA
 AAAGTTAAC ATAACAAAAA AAGGTCTTGC AGGAAAAAAA AAAGAAAAGA AAAGAAAAGAA AAAGTCTCCA
 AGAATGGTTT GGACAGCCAA AATGAATACT TATAGTCACG TATACCTGCT CACTCCTGAC GCTTCACTCA
 30 CACACAGCAC AGGATCTGGT GAGGCTATCA TAAATGTGC CACATTGTGG TTAAGTTTTA CCTGATTAAAC
 GAAATGCTCA CACTCTATAA CTGAGGTCTT TACAGTAGAT TCCTTTTGCA AGATTGTTAC TGGCTTACAA
 CTTAAAAATA AAGCAAAATC ACAAGGAAAG AAAAGTGGGG AAAAAATCGG AGGAAACTTG CCCGTGCCCT
 GGCCACCGGC AAGCTGCGCA CAAAGGGGTT AAAAGTTAAG TGGAAGTGGA GCTTGAAGAA GTGGGATGGG
 GCCTCTCCAG GAAAGCTGAA CGAGGCATCT GGAGCCCGAA CAAACCTCCA CCTTTTTTGG CCTCGACGGC
 35 GGCAACCCAG CCTCCTCTCT AACGCCCTCC GCCTTTGGGA CCAACCAAGG GAGCTCAAGT TAGTAGCAGC
 CCAAGGAGAG GCGTGGCTTG CCAAGACTAA AAAGGGAGGG GAGAAGAGAG GAAAAAGCA AGAATCCCCC
 ACCCTCTCC CGGCGCGAGG GGGCGGGGAG AGCGCTCCTT GGCCAAGCCG AGTAGTGTCT TCCACTCGGT
 GCGTCTCTCT AGGAACCGCG CGGGAAGGAT GCTGGTCCGC AGGGGCGCGC GCGCAGGGCC CAGGATGCCG
 CGGGGCTGGA CCGCGCTTTG CTTGCTGAGT TTGCTGC CCTTTTTTGG CCTCGACGGC GGCAACCCAG
 40 CCTCCCTCTT AACGCCCTCC GCCTTTGGGA CCAACCAAGG GAGCTCAAGT TAGTAGCAGC CAAGGAGAGG
 CGTGCCTCTT CCAAGACTAA AAAGGGAGGG GAGAAGAGAG GAAAAAGCA AGAATCCCCC ACCCTCTCC
 CGGGCGGAGG GGGCGGGGAG AGCGCGTCTT GGCCAAGCCG AGTAGTGTCT TCCACTCGGT GCGTCTCTCT
 AGGAGCCGCG CGGCAAGGAT GCTGGTCCGC AGGGGCGCGC GCGAGGGCCC AGGATGCCGC GGGGCTGGAC
 CGCGCTTTGC TTGCTGAGTT TGCTGCCTTC TGGGTTTCATG AGTCTTGACA ACAACGGTAC TGCTACCCCA
 45 GAGTTACCTA CCAAGGGAAC ATTTTCAAAT GTTTCTACAA ATGTATCCTA CCAAGAACTA ACAACACTA
 GTACCTTTGG AAGTACCAGC CTGCAACCTG TGTCTCAACA TGGCAATGAG GCCACAACA ACAACAGAG
 AACGACAGTC AAAATTCACAT CTACCTCTGT GATAACCTCA GTTTATGGAA ACACAAACTC TTCTGTCCAG
 TCACAGACCT CTGTAATCAG CACAGTGTTC ACCACCCAG CCAACGTTTC AACTCCAGAG ACAACCTGA
 AGCCTAGCCT GTCACTTGGA AATGTTTCAG ACCTTCAAC CACTAGCACT AGCCTTGCAA CATCTCCAC
 50 TAAACCTAT ACATCATCTT CTCCTATCCT AAGTGACATC AAGGCAGAAA TCAAATGTTT AGGCATCAGA
 GAAAGTAAAT TGACTCAGGG CATCTGCCTG GAGCAAAATA AGACCTCCAG CTGTGCGGAG TTTAAGAAGG
 ACAGGGGAGA GGGCTGGGCC CGAGTGCTGT GTGGGGAGGA GCAGGCTGAT GCTGATGCTG GGGCCAGGT
 ATGCTCCCTG CTCCCTGCCC AGTCTGAGGT GAGGCCTCAG TGTCTACTGC TGGTCTTGGC CAACAGAACA
 GAAATTTCCA GCAAACTCCA ACTTATGAAA AAGCACCAT CTGACCTGAA AAAGCTGGGG ATCCTAGATT
 55 TCACTGAGCA AGATGTTGCA AGCCACCAGA GCTATTCCCA AAAGACCCTG ATTGCACTGG TCACCTCGGG
 AGCCCTGCTG GCTGTCTTGG GCATCACTGG CTATTTCCTG ATGAAATCGCC GCAGCTGGAG CCCACAGGA
 GAAAGGCTGG GCGAAGACCC TTATTACACG GAAAACGGTG GAGGCCAGGG CTATAGCTCA GGACCTGGGA
 CCTCCCTGTA GGCTCAGGGA AAGGCCAGTG TGAACCGAGG GGCTCAGAAA AACGGGACCG GCCAGGCCAC
 CTCCAGAAAC GGCCATTGAG CAAGACAACA CGTGGTGGCT GATACCGAAT TGTGACTCGG CTAGGTGGGG
 60 CAAGGCTGGG CAGTGTCCGA GAGAGCACCC CTCTCTGCAT CTGACCAGT GCTACCCCA TGCTGGAGGT
 GACATCTCTT ACGCCCAACC CTTCCTTCTT GCACACACCT CAGAGGCTGT TCTTGGGGCC CTACACCTTG
 AGGAGGGGGC AGGTAAACTC CTGTCTTTTA CACATTCGGC TCCCTGGAGC CAGACTCTGG TCTTCTTTGG
 GTAAACGTGT GACGGGGGAA AGCCAAGGTC TGGAGAAGCT CCCAGGAACA ATCGATGGCC TTGCAGCACT
 CACACAGGAC CCCCCTCCCC TACCCCTTCC TCTCTGCCG AATACAGGAA CCCCAGGGG AAAGATGAGC
 TTTCTAGGC TACAATTTTC TCCAGGAAG CTTTGATTTT TACCGTTTCT TCCCTGTATT TTCTTTCTCT

ACTTTGAGGA AACCAAAGTA ACCTTTTGCA CCTGCTCTCT TGTAATGATA TAGCCAGAAA AACGTGTTGC
 CTTGAACCAC TTCCCTCATC TCTCTCCAA GACACTGTGG ACTTGGTCAC CAGCTCCTCC CTTGTTCTCT
 AAGTTCCACT GAGCTCCATG TGCCCCCTCT ACCATTGCA GAGTCCTGCA CAGTTTCTG GCTGGAGCCT
 AGAACAGGCC TCCCAAGTTT TAGGACAAAC AGCTCAGTTC TAGTCTCTCT GGGGCCACAC AGAAACTCTT
 5 TTTGGGCTCC TTTTCTCCC TCTGGATCAA AGTAGGCAGG ACCATGGGAC CAGGTCTTGG AGCTGAGCCT
 CTCACCTGTA CTCCTCCGAA AAATCCTCTT CCTCTGAGGC TGGATCCTAG CCTTATCCTC TGATCTCCAT
 GGCTTCTCTC TCCCTCCTGC CGACTCCTGG GTTGAGCTGT TGCCTCAGTC CCCCACAGA TGCTTTTCTG
 TCTCTGCCTC CCTCACCTCG AGCCCTTCC TTGCTCTGCA CCCCATATG GTCATAGCCC AGATCAGCTC
 CTAACCTTA TCACAGCTG CCTCTCTGT GGGTGACCCA GGTCTTGTG TGCTGTTGAT TTCTTTCCAG
 10 AGGGGTTGAG CAGGATCCT GGTTCATG ACGGTTGGAA ATAGAAATT CCAGAGAAGA GAGTATTGGG
 TAGATATTTT TTCTG AATAC AAAGTGATGT GTTAAATAC TGCAATTAAG GTGATACTGA AACAC-3' (FRAG.No:)
 (SEQ. ID NO:2466)
 5'-AGGATGATGG TGATGGGGAA CTAAATGGGG AAATATGGAA GGTCACAGGA AAAGTTAACA CAAGTTAGCA
 AAAAGTTAAC ATAAACACAAA AAGGTCTTGC AGGAAAAAAA AAAGAAAAGA AAAGAAAAGA AAAGTCTCCA
 15 AGAATGGTTT GGACAGCCAA AATGAATACT TATAGTCACG TATACCTGCT CACTCCTGAC GCTTCACTCA
 CACACAGCAC AGGATCTGGT GAGGCTATCA CTAAATGTGC CACATTGTGG TTAAGTTTAA CCTGATTAAAC
 GAAATGCTCA CACTCTAAA CTGAGGTCCT TACAGTAGAT TCCTTTTGCA AGATTGTTAC TGGCTTACAA
 CTTAAAAATA AAGCAAAATC ACAAGGAAAG AAAAGTGGGG AAAAAATCGG AGGAAACTTG CCCCTGCCCT
 GGCCACCGGC AAGGCTGCCA CAAAGGGGTT AAAAGTTAAG TGGAAGTGGA GCTTGAAGAA GTGGGATGGG
 20 GCCTCTCCAG GAAAGCTGAA CGAGGCATCT GGAGCCCGAA CAAACCTCCA CCTTTTITGG CCTCGACGGC
 GGCAACCCAG CCTCCTCCT AACGCCCTCC GCCTTTGGGA CCAACCAGGG GAGCTCAAGT TAGTAGCAGC
 CAAGGAGAGG CGCTGCCTTG CCAAGACTAA AAAGGGAGGG GAGAAGAGAG GAAAAAGCA AGAATCCCCC
 ACCCTCTCC CGGGCGGAGG GGGCGGGAAG GCGCGTCTCT GGCCAAGCCG AGTAGTGTCT TCCACTCGGT
 GCGTCTCTCT AGGAGCCGCG CGGAAGGAT AGCTGTCCGC AGGGGCGCGC GCGCAGGGCC CAGGATGCCG
 25 CGGGGCTGGA CCGCGCTTTG CTGCTGAGT TTGCTGC-3' (FRAG. NO:) (SEQ. ID NO:2464)
 5'-CCTTTTTTGG CCTCGACGGC GGCAACCCAG CCTCCCTCCT AACGCCCTCC GCCTTTGGGA CCAACCAGGG
 GAGCTCAAGT TAGTAGCAGC CAAGGAGAGG CGCTGCCTTG CCAAGACTAA AAAGGGAGGG GAGAAGAGAG
 GAAAAAGCA AGAATCCCCC ACCCTCTCTC CGGGCGGAGG GGGCGGGAAG AGCGCGTCTT GGCCAAGCCG
 30 AGTAGTGTCT TCCACTCGGT GCGTCTCTCT AGGAGCCGCG CGGGAAGGAT GCTGGTCCGC AGGGGCGCGC
 GCGAGGGCCC AGGATGCCGC GGGGCTGGAC CGCGCTTTGC TTGCTGAGTT TGCTGCCCTC TGGGTTTCATG
 AGTCTTGACA ACAACGGTAC TGCTACCCCA GAGTTACCTA CCCAGGGAAC ATTTTCAAA GTTTCTACAA
 ATGTATCCTA CCAAGAAACT ACAACACCTA GTACCCTTGG AAGTACCAGC CTGCACCCTG TGTCTCAACA
 TGGCAATGAG GCCACAACAA ACATCACAGA AAGCAGAGTC AAATTACAT CTACCTCTGT GATACCTCA
 35 GTTTATGGAA ACACAAACTC TTCTGTCCAG TCACAGACCT CTGTAATCAG CACAGTGTTC ACCACCCAG
 CCAACGTTTC AACTCCAGAG ACAACCTTGA AGCCTAGCCT GTCACCTGGA AATGTTTCAG ACCTTTCAAC
 CACTAGCACT AGCTTGCAA CATCTCCAC TAAACCTAT ACATCATCTT CTCCTATCCT AAGTGACATC
 AAGGCAGAAA TCAATATGTT AGGCATCAGA GAAGTAAAAT TGACTCAGGG CATCTGCCTG GAGCAAAATA
 AGACCTCCAG CTGTGCGGAG TTAAAGAAGG ACAGGGGAGA GGGCCTGGCC CGAGTGCTGT GTGGGGAGGA
 GAGGCTGAT GCTATGCTG GGGCCAGGT ATGCTCCCTG CTCCTTGCCC AGTCTGAGGT GAGGCCCTAG
 40 TGCTACTGTC TGGTCTTGGC CAACAGAAAC AAGATTGCA AGAACTCCA ACTTATGAAA AGTACCAAT
 CTGACCTGAA AAAGCTGGGG ATCTAGATT TCAGTAGCA AGATGTTGCA AGCCACCAGA GATATCCCA
 AAAGACCCTG ATTGCACTGG TCACCTCGGG AGCCTGCTG GCTGTCTTGG GCATCACTGG CTATTTCTG
 ATGAATCGCC GCACCTGGAG CCCACAGGA GAAAGGCTGG GCGAAGACCC TTATTACACG GAAAACGGTG
 GAGGCCAGGG CTATAGCTCA GGACCTGGGA CCTCCCTGA GGCTCAGGA AAGGCCAGTG TGAACCGAGG
 45 GGCTCAGAAA AACGGGACCG GCCAGGCCAC CTCCAGAAAC GGCCATTGAG CAAGACAACA CGTGGTGGCT
 GATACCGAAT TGTCCTCGG CTAGGTGGGG CAAGGCTGGG CAGTGTCCGA GAGAGCACCC CTCTCTGCAT
 CTGACCAGT GCTACCCCA TGCTGGAGGT GACATCTCTT ACGCCCAACC CTTCCTCAT GCACACACCT
 CAGAGGCTGT TCTTGGGGCC CTACACCTTG AGGAGGGGGC AGGTAAACTC CTGTCTTTA CACATTGCGC
 TCCCTGGAGC CAGACTCTGG TCTTCTTTGG GTAAACGTGT GACGGGGGAA AGCCAAGGTC TGGAGAAGCT
 50 CCCAGGAACA ATCATGAGCC TTGCAGCACT CACACAGGAC CCCCTTCCCC TACCCCTCC TCTCTGCCG
 AATACAGGAA CCCCTAGGGG AAAGATGAGC TTTTCTAGGC TACAATTTT TCCAGGAAG CTTTGATTTT
 TACCGTTTCT TCCCTGTATT TTCTTTCTCT ACTTTGAGGA AACCAAAGTA ACCTTTTGCA CCTGCTCTCT
 TGTAATGATA TAGCCAGAAA AACGTGTTGC CTTGAACCAC TTCCCTCATC TCTCTCCAA GACACTGTGG
 55 ACTTGGTCAC CAGCTCCTCC CTTGTTCTCT AAGTTCCACT GAGCTCCATG TGCCCCCTCT ACCATTGCA
 GAGTCTGCA CAGTTTCTG GCTGGAGCCT AGAACCAGCC TCCCAAGTTT TAGGACAAC AGCTCAGTTC
 TAGTCTCTCT GGGCCACAC AGAAACTCTT TTTGGGCTCC TTTTCTCCC TCTGGATCAA AGTAGGCAGG
 ACCATGGGAC CAGGTCTTGG AGCTGAGCCT CTCACCTGTA CTCTCCGAA AAATCCTCTT CCTCTGAGGC
 TGGATCCTAG CCTATCCTC TGATCTCCAT GGCTTCTCT TCCCTCCTGC CGACTCCTGG GTTGAGCTGT
 TGCTCAGTC CCCCACAGA TGCTTTCTG TCTCTGCTC CCTCACCTG AGCCCTTCC TTGCTCTGCA
 60 CCCCATATG GTCATAGCCC AGATCAGCTC CTAACCTTA TCACCAGCTG CCTCTTCTGT GGGTGACCCA
 GGTCTTGTG TGCTTTGAT TTCTTTCCAG AGGGGTTGAG CAGGGATCCT GGTTCATG ACGGTTGGAA
 ATAGAAATTT CCACAGAAGA GAGTATTGGG TAGATATTTT TTCTGAATAC AAAGTGATGT GTTAAATAC

TGCAATTAAA GTGAT'ACTGA AACAC-3' (FRAG. No:) (SEQ. ID NO:2465)

Eotaxin Antisense Nucleic Acids and Oligonucleotide Fragments

	5'-GCATTTTTC	AAGTTTATG	ATTTATTTAA	CTGTGGAAC	AAAAATAAAC	CAGAAACCAC	CACCTCTCAC
	GCCAAAGCTC	ACACCTTCAG	CCTCCAACAT	GAAGGTCTCC	GCAGCACTTC	TGTGGCTGCT	GCTCATAGCA
5	GCTGCCTTCA	GCCCCAGGG	GCTCGCTGGG	CCAGCTTCTG	TCCCAACCAC	CTGCTGCTTT	AACCTGGCCA
	ATAGGAAGAT	ACCCCTTCAG	CGACTAGAGA	GCTACAGGAG	AATCACCAGT	GGCAAATGTC	CCCAGAAAGC
	TGTGATCTTC	AAGACCAAAAC	TGGCCAAGGA	TATCTGTGCC	GACCCCAAGA	AGAAGTGGGT	GCAGGATTCC
	ATGAAGTATC	TGGAACAAA	ATCTCCAAC	CCAAAGCCAT	AAATAATCAC	CATTTTTGAA	ACCAAACCAG
	AGCCTGAGTG	TTGCTATA	TGTTTTCCCT	TCTTACAATG	CATTCTGAGG	TAACCTCATT	ATCAGTCCAA
10	AGGGCATGGG	TTTATTATA	TATATATATA	TTTTTTTTT	AAAAAAAAA	GTATTGCATT	TAATTTATTG
	AGGCTTTAAA	ACTTATCCTC	CATGAATATC	AGTTATTTTT	AAACTGTAAA	GCTTTGTGCA	GATTCTTTAC
	CCCCTGGGAG	CCCCAATTCG	ATCCCCTGTC	ACGTGTGGGC	AATGTTCCCC	CTCTCCTCTC	TTCCCTCCCTG
	GAATCTTGTA	AAGCTCCTGG	CAAAGATGAT	CAGTATGAAA	ATGTCATTGT	TCTTGTGAAC	CCAAAGTGTG
	ACTCATTAAA	TGGAAGTAAA	TGTTGTTTTA	GGAATAC	ATGAAGGTCT	CCGCAGCACT	TCTGTGGCTG
15	CTGCTCATAG	CAGCTGCCTT	CAGCCCCCAG	GGGCTCGCTG	GGCCAGCTTC	TGTCCCAACC	ACCTGCTGCT
	TTAACTGGC	CAATAGGAAG	ATACCCCTTC	AGCGACTAGA	GAGCTACAGG	AGAATCACCA	GTGGCAAATG
	TCCCCAGAAA	GCTCTGATCT	TCAAGACCAA	ACTGGCCAA	GATATCTGTG	CCGAGCCCCA	GAAGAAGTTG
	GTGCAAGGAT	CCATGAAGTA	TCTGGACCAA	AAATCTCCAA	CTCCAAAGCC	ATAA	CCACATATTC
	CCAAAGGCAAG	ATCCAGATGG	ATTAAGAAAT	GTACCAAGTC	CCTCTACTA	GCTTGCCTCT	CTTCTGTTCT
20	GCTTGACTTC	CTAGGATCTG	GAATCTGGTC	AGCAATCAGG	AATCCCTTCA	TCGTGACCCC	CGCATGGGCA
	AAGGCTTCCC	TGGAATCTCC	CACACTGTCT	GCTCCCTATA	AAAGGCAGGC	AGATGGGCCA	GAGGAGCAGA
	GAGGCTGAGA	CCAACCCAGA	AACCACCACC	TCTCAGCCA	AAGCTCACAC	CTTCAGCCTC	CAACATGAAG
	GTCTCCGCAG	CACITCTGTG	GCTGCTGCTC	ATAGCAGCTG	CCTTCAGCCC	CCAGGGGCTC	GCTGGGCCAG
	GTAAGCCCCC	CAATCCTTA	CAGGAAAGGT	AAGGTAACCA	CCTCCAGGCT	ACTAGGTCAG	CAAGAACTCT
25	TACAGACTCA	CTGCAAAATC	TCCATTTGAA	AAATAGGGAA	ACAGGTTTTG	TGGGTGGACA	AGAAATGCCT
	CAACCGTCA	ATCCAGTCAC	TGGAAGAGCC	AGAACTAGAA	AGTCCCAG	TTTTCCTCCC	ACATTCCAGT
	GGGCGCTGG	GTGCATCCTT	ACCCAGCTAT	CCTTACAGTG	TTTGGGAATG	GGAATGGGCT	CTGTCTTACT
	GTGGGCATGG	TGGCATTTTT	TGGCAGTGGG	AGAGAAGGAA	AATCTGTTGA	TTAGAAGCTC	AGTATGTTAA
	TTCGACTCCA	GGACAGCTTT	CAGAGACAGT	GGCTAAGAGA	AGAACGAGGT	CCCAGGGGAT	CTCTTGAGGT
30	GACTTATTTT	GACACTCTTT	GGGAAAGTTA	TCTAGGAGAT	TTGTTCCATA	ACTCATTTTC	CCATACTCTG
	GTGACAAATT	TACIGAGTGT	ATCGGTCCCA	CTGAGCCAGT	GCATAGCATG	GTAACAAACA	GTTCTAAATT
	ATCAATGACT	TAACAGAATT	AACTAAATTA	ACAAAAGTTA	CTTTCTCACT	TGTACTAAAT	ATCTATAATG
	TATGGGCTCA	GGCITCTGCA	TTTTATACTC	AGGATCTTAG	ACTGATGGAG	AAGTTGCCAT	GTGGGGGAAC
	ATTGATGGAT	ACTGTGATAA	AGCAGAGAA	AGCTCTCAGG	AGTCTTGCA	AGGCAATGCA	CTGTGGCTCA
35	AAAAATGACAC	CCAATCATT	GTCTCCTTCT	TTATTGATCA	AAACTAATTA	ATGCCTCCAA	CCAAACAAAA
	GTGGCCAAGA	AATGCAAGTC	TACCTTGTGT	CTCAAAACAG	AGGATGGAGA	ATATTTGGTG	AAAATTACCA
	TGACCATCAC	ATGCCACGT	AGGTCTTTAT	AATGACAGAG	CTAGCATTTG	TCACATTGAC	CAAGCTTTGT
	CCATACACTC	TACAGTAATG	ATGAGTCCTC	AGTGCACAGG	GGAGGATGCT	GAAGACACAG	GACAGCATCC
	TCCAGACACA	TAAGACTTCA	GAGCAGAGGG	ATTCTCCCTC	CACCTCTCGC	AAATCCTTGC	TTTCTCCTAA
40	CTTCCTTTAC	AAACTCATGC	TTGGAAATGT	CTATGTATCA	TCATGTGGCT	CATTTTTTTC	TCTGTTTATT
	TTTTTCCCC	AAAATTCAG	TTCTGTCCCA	ACCACCTGCT	GCTTTAACCT	GGCCAATAGG	AAGATAACCC
	TTACGCGACT	AGAGAGCTAC	AGGAGAATCA	CCAGTGGCAA	ATGTCCCCAG	AAAGCTGTGA	TGTAAGTAA
	TAAAGTTCAC	CCTCCCTAG	ACAAAAAAAT	AATGTCTAGG	GCACAGAGTC	AAGAAGCTGTG	GGAGTCATAG
	ACTCTGATAG	TTTGACCTCT	ATGGTCCAAT	TCATTAATTT	TCACAAGTGA	GTGTTCACTC	CCAGCTCCCT
45	GCCTGGGAGA	TTGCTGTAGT	CATATCAATT	TCTTCAAGTC	AAGAGCAAAG	ATGGTTTTAC	TGGGCTTTTA
	AGAGCAGCAA	CTAACCCAAG	AGTCTCATCC	TTCTCTCTCT	CCGTAGCAAC	CCTTTGTCCA	GGGGCAGATG
	GTCCTTAAAT	ATTTAGGGTC	AAATGGGCAG	AATTTTCAAA	AACAATCCCT	CCAATTGCAT	CCTGATTCTC
	CCCACAGCTT	CAAGACCAAA	CTGGCCAAGG	ATATCTGTGC	CGACCCCAAG	AAGAAGTGGG	TGCAGGATTG
	CATGAAGTAT	CTGCACAAA	AAATCTCAAC	TCCAAAGCCA	TAAATAATCA	CCATTTTTGA	AACCAACCA
50	GAGCCTGAGT	GTTCCTTAAT	TGTTTTTCCC	TCTTACAATG	GCATTCTGAG	GTAACCTCAT	TATCAGTCCA
	AAGGGCATGG	GTTTATTAT	ATATATATAT	ATATATTTTT	TTTTAAAAAA	AAACGTATTG	CATTTAATTT
	ATTGAGGCTT	TAAACTTAT	CCTCCATGAA	TATCAGTTAT	TTTTAAACTG	TAAAGCTTTG	TGCAGATTCT
	TTACCCCTTG	GGAGCCCCAA	TTCGATCCCC	TGTCACGTGT	GGGCAATGTT	CCCCCTCTCC	TCTCTCTCTC
	CCTGGAATCT	TGTAAAGGTC	CTGGCAAAGA	TGATCAGTAT	GAAAATGTCA		

ATAGGAAGAT ACCCTTCAG CGACTAGAGA GCTACAGGAG AATCACCAGT GGCAAATGTC CCCAGAAAGC
 TGTGATCTTC AAGA CCAAAC TGGCCAAGGA TATCTGTGCC GACCCCAAGA AGAAGTGGGT GCAGGATTCC
 ATGAAGTATC TGAACCAAA ATCTCCAAT CCAAAGCCAT AAATAATCAC CATTTTGGAA ACCAAACCAG
 AGCCTGAGTG TTGCTAATT TGTTCCTT TCTTACAATG CATTCTGAGG TAACCTCATT ATCAGTCCAA
 5 AGGGCATGGG TTTATTATA TATATATATA TTTTTTTTTT AAAAAAAAC GTATTGCATT TAATTTATTG
 AGGCTTTAAA ACTATCCTC CATGAATATC AGTTATTTTT AAAGTGTAAA GCTTTGTGCA GATTCTTTAC
 CCCCTGGGAG CCCCAATTCTG ATCCCCTGTC ACGTGTGGGC AATGTTCCCC CTCTCCTCTC TTCCTCCCTG
 GAATCTTGTA AAGCTCTGG CAAAGATGAT CAGTATGAAA ATGTCATTGT TCTTGTGAAC CCAAAGTGTG
 ACTCATTTAA TGGAA GTAAA TGTTGTTTA GGAATAC-3' (FRAG.NO:) (SEQ. ID NO:2491)
 10 5'-ATGAAGGTCT CC3CAGCACT TCTGTGGCTG CTGCTCATAG CAGTGCCTT CAGCCCCCAG GGGCTCGCTG
 GGCCAGCTTC TGTC CCAACC ACCTGCTGCT TTAACCTGGC CAATAGGAAG ATACCCCTTC AGCGACTAGA
 GAGCTACAGG AGAATCACCA GTGGCAAATG TCCCCAGAAA GCTGTGATCT TCAAGACCAA ACTGGCCAAG
 GATATCTGTG CCGACCCCAA GAAGAAGTGG TCGCAGGATT CCATGAAGTA TCTGGACCAA AAATCTCCAA
 CTCCAAAGCC ATAA-3' (FRAG. NO:) (SEQ. ID NO:2492)
 15 5'-CCACATATTC CCTCTCTTTT CCAAGGCAAG ATCCAGATGG ATTAATAAAT GTACCAAGTC CCTCTACTA
 GCTTGCCCTCT CTTCIGTCT GCTTGACTTC CTAGGATCTG GAATCTGGTC AGCAATCAGG AATCCCTTCA
 TCGTGACCCC CGCA TGGGCA AAGGCTTCCC TGGAAATCTCC CACACTGTCT GCTCCCTATA AAAGGCAGGC
 AGATGGGCCA GAGGAGCAGA GAGGCTGAGA CCAACCCAGA AACCACCACC TCTCACGCCA AAGCTCACAC
 CTTCAGCCTC CAACATGAAG GTCTCCGAG CACTTCTGTG GCTGCTGCTC ATAGCAGCTG CCTTCAGCCC
 20 CCAGGGGCTC GCTC GGCCAG GTAAGCCCCC CAACTCCTTA CAGGAAAGGT AAGGTAACCA CCTCCAGGCT
 ACTAGGTCAG CAAGAATCTT TACAGACTCA CTGCAAAATC TCCATTGAA AAATAGGGAA ACAGGTTTGT
 TGGGTGGACA AGAATATGCTT CAACCGTCAC ATCCAGTCAC TGAAGAGGCC AGAACTAGAA AGCTCCCGAG
 TCTTTTCCCC ACATICAAGA GGGCCGCTGG GTGCATCCTT ACCCAGCTAT CCTACAGTG TTTGGGAATG
 GGAATGGCT CTGCTTACT GTGGGCATGG TGGGCATTTT TGGCAGTGGG AGAGAAGGAA AATCTGTTGA
 25 TTAGAAGCTC AGTATGTTAA TTCGACTCCA GGACAGCTTT CAGAGACAGT GGCTAAGAGA AGAACGAGGT
 CCCAGGGGAT CTCCTGAGGT GACTTATTTT GACACTCTTT GGGAAAGTTA TCTAGGAGAT TTGTTCCATA
 ACTCATTTTC CCATCTCTG GTGACAAATT TACTGAGTGT ATCGGTCCCA CTGAGCCAGT GCATAGCATG
 GTAACAAACA GTTCTAAATT ATCAATGACT TAACAGAATT AACTAAATTA ACAAAGTTA CTTTCTCACT
 TGTACTAAAT ATCTATAATG TATGGGCTCA GGCTTCTGCA TTTTATACTC AGGATTCTAG ACTGATGGAG
 30 AAGTTGCCAT GTGGGGGAAC ATTGATGGAT ACTGTGATAA AGCAGAAGAA AGCTCTCAGG AGTCTTGCAT
 AGGCAATGCA CTGTGGCTCA AAAATGACAC CCATCACTTT GTCTCCTTCT TTATTGATCA AAATAATTA
 ATGCCTCCAA CCAACAAAAA GTGGCCAAGA AATGCAAGTC TACCTTGTGT CTCAAAACAG AGGATGGAGA
 ATATTTGGTG AAAATTACCA TGACCATCAC ATGGCCACGT AGGTCTTTAT AATGACAGAG CTAGCATTTG
 TCACATTGAC CAACCTTTGT CCATACACTC TACAGTAATG ATGAGTCCTC AGTGCACAGG GGAGGATGCT
 35 TAAGACACAG GACAGCATCC TCCAGACACA TAAGACTTCA GAGCAGAGGG ATTCTCCCTC CACCTCTCGC
 AATTCTTGC TTCTCTTAA TCTCTTTAC AAAGCTATGC TTGAAATGT CTATGTATCA CTATGTGGCT
 CATTTTCTTC TCTGTCATT TTTTTCCTC AAAATTCAGC TTCTGTCCCA ACCACCTGCT GCTTTAACCT
 GGCCAATAGG AAGATACCCC TTCAGCGACT AGAGAGCTAC AGGAGAATCA CCAGTGGCAA ATGTCCCCAG
 AAAGCTGTGA TGTAAGTAAA TAAAGTTCAC CCTCCCTAG ACAAAAAAAT AATGTCTAGG GCACAGAGTC
 40 AAGAAGTGTG GGAATCATAG ACTCTGATAG TTTGACCTCT ATGGTCCAAT TCATTAATTT TCACAAGTGA
 GTGTTCACTC CCAGCTCCCT GCCTGGGAGA TTGCTGTAGT CATATCAATT TCTTCAAGTC AAGAGCAAAG
 ATGGTTTTAC TGGGCCTTTA AGAGCAGCAA CTAACCCAAG AGTCTCATCC TTCTCTCTCT CCGTAGCAAC
 CCTTGTGCCA TGGGCAGATG GTCTTAAAT ATTTAGGGTC AAATGGGCAG AATTTTCAAA AACAACTCTT
 CCAATTGCAT CCTGATCTC CCCACAGCTT CAAGACCAA CTGGCCAAGG ATATCTGTGC CGACCCCAAG
 45 AAGAAGTGGG TGCA GGATTC CATGAAGTAT CTGGACCAAA AATCTCCAAC TCCAAAGCCA TAAATAATCA
 CCATTTTGA AACCAACCA GAGCCTGAGT GTTGCTTAAT TTGTTTTCCC TTCTTACAAT GCATTCTGAG
 GTAACCTCAT TATCAGTCCA AAGGGCATGG GTTTTATTAT ATATATATAT ATATATTTTT TTTTAAAAAA
 AAACGTATTG CATITAATT ATTGAGGCTT TAAAACTTAT CCTCCATGAA TATCAGTTAT TTTTAAACTG
 TAAAGCTTTG TGCAGATTCT TTACCCCTG GGAGCCCCAA TTCGATCCCC TGTCACGTGT GGGCAATGTT
 50 CCCCTCTCC TCTCTCTC CTGGAATCT GTTAAAGTCT CTGGCAAAGA TGATCAGTAT GAAAATGTCA
 TTGTTCTTGT GAACCCAAAG TGTGACTCAT TAAATGGAAG TAATGTTGTT TTAGGAATAC ATAAAGTATG
 TGCATATTTT ATTATAGTCA CTAGTTGTAA TTTTGTGTG GGAAATCCAC ACTGAGCTGA GGGGG-3' (FRAG.NO:)
 (SEQ. ID NO:2493)

FK-506 Binding Protein Nucleic Acids and Oligonucleotide Fragments

55 5'- GCCAGGTCGC TGITGGTCCA CGCCGCCCGT CGCGCCGCC GCCCGCTCAG CGTCCGCCGC CGCCATGGGA
 GGCCGGAGCC GAGCGGGGT CGGGCAGCAG CAGGGACCCC CCAGAGGCGG GGCTGTGGG ACCGCTATGG
 GCGTGGAGAT CGAC ACCATC TCCCCCGGAG ACGGAAGGAC ATTCCCCAAG AAGGGCCAAA CGTGTGTGGT
 GCACTACACA GGAATGTCTC AAAATGGGAA GAAGTTGAT TCATCCAGAG ACAGAAACAA ACCTTTCAAG
 TTCAGAATTG GCAAACAGGA AGTCATCAAA GGTTTTGAAG AGGGTGCAGC CCAGATGAGC TTGGGGCAGA
 60 GGGCGAAGCT GACCTGCACC CCTGATGTGG CATATGGAGC CACGGGCCAC CCCGGTGTCA TCCCTCCCAA
 TGCCACCCCTC ATCTTTGACG TGGAGCTGCT CAACTTAGAG TGAAGGCAGG AAGGAACTCA AGGTGGCTGG

[illegible]

TGCCATAAAC CTCAGTTAT TCATTTTATT TTGTTTTCAT TTTGGGGTGA AGATTCAGTT TCAGTCTTTT
 GGATATAGGT TTCCAATTAA GTACATGGTC AAGTATTAAC AGCACAAGTG GTAGGTTAAC ATTAGAATAG
 GAATTGGTGT TGGG:GGGGGG GTTTGCAAGA ATATTTTATT TTAATTTTTT GGATGAAATT TTTATCTATT
 ATATATTAAA CATICTTGCT GCTGCGCTGC AAAGCCATAG CAGATTTGAG GCGCTGTTGA GGACTGAATT
 5 ACTCTCCAAG TTGAGAGATG TCTTTGGGTT AAATTAAGAG CCCTACCTAA AACTGAGGTG GGGATGGGGA
 GAGCCTTTGC CTCCACCATT CCCACCCACC CTCCCTTAA ACCCTCTGCC TTTGAAAGTA GATCATGTTC
 ACTGCAATGC TGG/CACTAC AGGTATCTGT CCCTGGGCCA GCAGGGACCT CTGAAGCCTT CTTTGTGGCC
 TTTTTTTTTT TTCA/CCTGT GGTTTTTCTA ATGGACTTTC AGGAATTTTG TAATCTCATA ACTTTCCAAG
 CTCCACCACT TCCTAAATCT TAAGAACTTT AATTGACAGT TTCAATTGAA GGTGCTGTTT GTAGACTTAA
 10 CACCCAGTGA AAGC:CCAGCC ATCATGACAA ATCCTTGAAT GTTCTCTTAA GAAAATGATG CTGGTCATCG
 CAGCTTCAGC ATC/CCTGTT TTTTGATGCT TGGCTCCCTC TGCTGATCTC AGTTTCCTGG CTTTTCCTCC
 CTCAGCCCTT TCTACCCCTT TTGCTGTCCT GTGTAGTGAT TTGGTGAGAA ATCGTTGCTG CACCCTTCCC
 CCAGCACCAT TTATGAGTCT CAAGTTTTAT TATTGCAATA AAAGTGCTTT ATGCCCGAAT TC-3' (FRAG.NO:)
 (SEQ. ID NO:2497)
 15 5' GCCGCCGCCA TG3GAGTGCA GGTGGAAACC ATCTCCCCAG GAGACGGGCG CACCTTCCCC AAGCGCGGCC
 AGACCTGCGT GGTGCACTAC ACCGGGATGC TTGAAGATGG AAAGAAATTT GATTCTCTCC GGGACAGAAA
 CAAGCCCTTT AAGTTTATGC TAGGCAAGCA GGAGGTGATC CGAGGCTGGG AAGAAAGGGT TGCCAGATG
 AGTGTGGGTC AGACAGCCAA ACTGACTATA TCTCCAGATT ATGCCTATGG TGCCACTGGG CACCCAGGCA
 TCATCCCAACC ACATGCCACT CTCGTCTTCG ATGTGGAGCT TCTAAACTG GAATGACAGG AATGGCCTCC
 20 TCCCTTAGCT CCCTTTCCTT GGATCTGCCR TGGAGGGATC TGGTGCCTCC AGACATGTGC ACATGARTCC
 ATATGGAGCT TTCTCTGATG TTCCACTCCA CTTTGTATAG ACATCTGCCC TGAAGTGAATG TGTTCTGTCA
 CTCAGCTTTG CTTCCGACAC CTCTGTTTCC TCTTCCCTT TCTCCTCGTA TGTGTGTTTA CCTAAACTAT
 ATGCCATAAA CCTCAAGTTA TTCA-3' (FRAG. NO:) (SEQ. ID NO:2498)

wherein B is adenosine, or, more preferably, replaces adenosine and is an "equivale\lent" or a
 25 "universal" base, and adenosine A_{2a} receptor agonist or only minimally antagonist, an adenosine A_{2b}
 receptor antagonist, an adenosine A₃ receptor antagonist, or an adenosine A₁ receptor antagonist.
 Similarly, adenosine (A) may always be replaced by an "alternative", "equivalent" and/or "universal"
 base having a small fraction, preferably less than 0.3 of the activity of adenosine at the adenosine
 receptor(s), as described above.
 30 In one preferred embodiment, the links between neighboring mononucleotides are phosphodiester
 links. In another preferred, at least one mononucleotide phosphodiester residue of the anti-sense
 oligonucleotide(s) is substituted by a methylphosphonate, phosphotriester, phosphorothioate,
 phosphorodithioate, boranophosphate, formacetal, thioformacetal, thioether, carbonate, carbamate, sulfate,
 35 sulfonate, sulfamate, sulfonamide, sulfone, sulfite, sulfoxide, sulfide, hydroxylamine, 2'-O-methyl,
 methylene(methylimino), methyleneoxy (methylimino), phosphoramidate residues, and combinations
 thereof. The oligos having one or more phosphodiester residues substituted by one or more of the other
 residues are generally longer lasting, given that these residues are more resistant to hydrolysis than the
 phosphodiester residue. In some cases up to about 10%, about 30%, about 50%, about 75%, and even all
 phosphodiester residues may be substituted (100%). Typically, the multiple target anti-sense
 40 oligonucleotide (oligo) of the invention comprises at least about 7 mononucleotides, in some instances up
 to 60 and more mononucleotides, preferably about 10 to about 36, and more preferably about 12 to about
 21 mononucleotides. However, other lengths are also suitable depending on the length of the target
 macromolecule. Examples of the MTA oligos of the invention are provided in Table 3 below, which
 includes ninety-four sequences (SEQ ID NOS.: 2316 through 2410).

Table 3: MTA Oligos, Location Targeted & Target

MTA Oligo	SEQ. ID No.	Location	Compound Targeted	Target
<u>HUMNFKBP65A AS</u>				
CCC GGC CCC GCC TCG TGC C	3019	5'=1	EPI 2192	
CGT CCB TGC CGC GGG CCC	3020	5'=28 (AUG)	EPI 2193	
GCC CCG CTG CTT GGG CTG CTC TGC CGG G	3021	5'=65	EPI 2194	
TCT GTG CTC CTC TCG CCT GGG	3022	5'=137	EPI 2195	
TGG TGG GGT GGG TCT TGG TGG	3023	5'=159	EPI 2196	
CTG TCC CTG GTC CTG TG	3024	5'=196	EPI 2197	

	GGT CCC GCT TCT TC	3025	5'=362	EPI 2198
	GGG GTT GTT GTT GGT CTG G	3026	5'=401	EPI 2199
	TGT CCT CTT TCT GC	3026	5'=656	EPI 2200
	GCC TCG GGC CTC CC	3027	5'=697	EPI 2201
5	GGC TGG GGT CTG CGT	3028	5'=769	EPI 2202
	GGC CGG GGG TCG GTG GGT CCG CTG	3029	5'=953	EPI 2203
	GGG CTG GGG TGC TGG CTT GGG G	3030	5'=1022	EPI 2204
	GGG GCT GGG GCC TGG GCC	3031	5'=1208	EPI 2205
	GCC TGG GTG GGC TTG GGG GC	3032	5'=1272	EPI 2206
10	GCT GGG TCT GTG CTG TTG CC	3033	5'=1362	EPI 2207
	GTT GTG TGG GGG GCC	3034	5'=1451	EPI 2208
	GCT GGG TCG GGG GGC CTC TGG GCT GTC	3035	5'=1511	EPI 2209
	GCC CCG GGG CCC CC	3036	5'=1550	EPI 2210
	TGG CTC CCC CCT CC	3037	5'=1772	EPI 2211
15	GCT CCC CCC TTT CC	3038	5'=1863	EPI 2212
	CGG ACG AAG ACA GAG A	3039	5'=1979	EPI 2213
	GGC TTT GTG GGC TC	3040	5'=2011	EPI 2214
	GCC TGC TCT CCC CC	3041	5'=2312	EPI 2215
	CCC GGC CCC GCC BCG BBC C	3042	intron	EPI 2192-01A HSU50136C4Synth
20	CCC GGC CCC GCC BCG	3043	intron	EPI 2192-01B
	CCC GGC CCC GCC BCG BBC C	3044	5'untr	EPI 2192-02A HUMLIPOX5LO
	CCC GGC CCC GCC BCG	3045	5'untr	EPI 2192-02B
	CCC GBC CCC GCC TCB BG	3046	trans	EPI 2192-03A HSNFKBS Subunit
	CCC GBC CCC GCC TC	3047	trans	EPI 2192-03B
25	CCG GCC CCG CCT C	3048	5'untr	EPI 2192-04 TGFβR1
	CCC GBB CCC GCB TBG TGC C	3049	5'trans	EPI 2192-05A HSU58198I1 enhan
	CCC GCB TBG TGC C	3050	5'untr	EPI 2192-05B
	CCC GGB CCC BCC BBG TGC C	3051	3'trans	EPI 2192-06 HSVECAD
	CBG BBC CCG CCT CGT GCC	3052	intron	EPI 2192-07A NFKB2
30	C CCG CCT CGT GGC	3053	intron	EPI 2192-07B NFKB2
	CCG GCB CCG CCT CBT GCC	3054	5'trans	EPI 2192-08 Carboxypep
	CCG GCC CCG CCB CBT GCC	3055	3'trans	EPI 2192-09 HumADRA2Cα2AdrKid
	CCC GBC CCC GBC TCG	3056	5'untrs	EPI 2192-10 HUMFK506B
	CCC GGC CBC GBC TCG	3057	5'untrs	EPI 2192-11 HSNBARKS1βAdrKin
35	CCC GGC CCB GCC TBG	3058	5'UTR	EPI 2192-12 HSNFXN1 (NFKB1)
	CCC GGC BCB GBC TCG TBC C	3059	3'UTR	EPI 2192-13 HSILF(transcrp. Factor ILF)
	CCC GGC CCC GCC BCG	3060		EPI-2192-14 NFKB/C4Syn/5-LO/ TGFBrecl MTA
40	CCC GGC CCC GCC BCG	3061		EPI-2192-15NFKB/C4Syn/5-LOMTA
	TCC BTG CCG CGG GC	3062	3' trans	EPI-2193-01 METOncogene
	TCC BTG CCB CGG GCC	3063	3' trans	EPI-2193-02 HSFGR2 (IG)
	TCC BTG CCB CGG GCC	3064	mid cod	EPI-2193-03 5-LO
	TCC BTG CCB CBG GCC	3065	mid cod	EPI-2193-04 HUMTK14
45	GTC CBT GBC GCG G	3066	3'trans	EPI-2193-05 HUMTNFR
	TC CBT GBC GCG GG	3067	AUG	Probl.HUMPTCH cardiacK+channel
	TCT GBG CTC CTC TBB CCT GGG	3068	intr	EPI-2195-01 humCSPAcytotox. Ser. Protease
50	CTG TGC BCC TBB CBC CTG GG	3069	intr	EPI-2195-02 HSINOSX08induc.NOS
	TGT GBT CCB CTB GBC TGG G	3070		EPI-2195-03 HUMACHRM2musc.m2 acetylch.rec.
	TCT GTB CTC BBC TCB CCT G	3071		EPI-2195-04 s86371s1 Neurokinin3Recept
55	TGC TCC TCB CBB CTG GG	3072		EPI-2195-05 HUMMIP1 Amacro
	inflam.factor			

EPI-061791 "C4Synth"

Table 3: MTA Oligos, Location Targeted & Target (Cont'd)

MTA Oligo	SEQ. ID No.	Location	Compound Targeted	Target
5 CTC CTC TBG CCT GG	3073		EPI-2195-06	HSNBARKS4 β-Adr Rec Kinase
GTG CTC CBB TCB BCT GGG	3074		EPI-2195-07	HSTNFR2SO6TNF R2
GTG CBC CBB TCB CCT GGG	3075		EPI-2195-08	humfkbk fk506 binding prot.
10 TCT GTG CBC CTC TBG BCT	3076	exon	EPI-2195-09	HSNBARKS1β-Adr. Recept.Kinase
CTG TBB TCC TBB CBC CTG G	3077	intron	EPI-2195-10	HUMIL8
TGT GCT BBT CBC BCB TGG G	3078		EPI-2195-11	HSU50157 PDE4
GTG CBC CBC TCB CCT G	3079	intron/exon	EPI-2195-12	IL-2 R
CTG TGC BCC TCT C	3080	3'UTR	EPI-2203-05	IL-6 R HSIL6R
15 CBG TGC BCC BCT CBC CTG	3081	intr/ex	EPI-2203-06A	HSIL2rG6
G TGC BCC BCT CFC CTG	3082	intr/ex	EPI-2203-06B	HSIL2rG6
CBC CTC TCB CCT GGG	3083	coding	EPI-2203-07A	HUMIL71
C CTC TCB CCT GCG	3084	coding	EPI-2203-07B	IL-7 HUMIL71
GCT CCB CTC GCC T	3085	coding	EPI-2203-08	IL-6 R HSI6REC
20 TGC TCC TCB CGC C	3086	intron PDGF A	EPI-2303-09	Chain HUMPDGFAB
GTT GTT GBT CTG G	3087	3'utr	EPI-2199-01	GATA-4Transcrip. Factor for IL-5
GGT TGB BBT TGG TCT TGG	3088	Coding	EPI-2199-02	TNFα HUMTNFA
GGT TGT TGB TGB TCT G	3089	Far 5'UTR	EPI-2199-03	HSSUBP1G(Sub Pr)
25 GGG TTB BBG TTG BTC TGG	3090	Coding	EPI-2199-04	NeutrophilAdh. R HUMNARIA
GGG TTB BBG TTG BTC TGG	3091	HSHM2	EPI-2199-05	m2 Muscarinic R
TTG TTG TBG BTC TGG	3092	HUML1CAM	EPI-2199-06	L1 LeukAadhProt
GGG TBG BBG BGT CCG CTG	3093	coding	EPI-2203-01	HUMGATA2A
30 GGG TCB GBG GBT CBG CTG	3094	S71424S2	EPI-2203-02	IGE eps
GGG TBG GTG GGT C	3095	coding	EPI-2203-03	HSGCSFR2
GGG TCG GBG GGT CBG C	3096	HUMITGF	EPI-2203-04	TGFβ3
GGG TGG GCT T	3097	HUMNK65PRO	EPI-2206-01	NFKB/NK & TCell
35 GGG TGG GCT TGG G	3098	HUMPEREEB	EPI 2206-02	Activating Prot NFKB/Prostagl. EP3 Rec
CCTGGGTGGGBBTGGG	3099		EPI 2206-03	HSNF2B/GCSF NFKB/GranuLocCSF/ Transcr.FactorNF2B
40 CCTGGBTGGGCBTGGG	3100		EPI-2206-04	HUMLAP/NFKB Leuk.Adhes.Prot
GCCTGBGTGBBCTTGCG	3101		EPI2206-05	NFKB/Endothel N2 S63833
45 CCCAVGVCCVCCCAGGC	3102		EPI 2206-06	NFKBAS13/B Lymph SerThrProt.Kinase
AGCCCACCCAGGC	3103		EPI2206-07	NFKBAS13/GCSF1 HSGCSFR1Rec
50 BCCTGGGTGGGCTB	3104		EPI2206-08	NFKBAS13/GCSF1/ NK7TCELLACT.Prot
GGTGGGCTTGGG	3105		EPI 2206-09	NFKBAS13/ HSTGFB1 TGFB
CCBBGGTGGGCTTGGG	3106		EPI 2206-10	NFKBAS13/ HSTGFB1 TGFB1
55 CTGGGTGGGBBTGGG	3107		EPI 2206-11	NFKBAS13/ HSGCSFR1 GCSFR1
CCBGGGTGGGCTTGG	3108		EPI 2206-12	NFKBAS13/HUMCD30A LymphActAntigCoding
GGGTGGGCTTGG	3109		EPI-2206-12B	NFKBAS13/HUMCD30A
60 CCTGBGTGBGCBTGGG	3110		EPI 2206-13	NFKBAS13/HUMCAM1V Vasc.Endoth.Cell Adh.Molec

B: Universal Base

The MTA oligos of Table 3 are suitable for use with two or more of the targets listed in Table 4 below.

0954367-040400

Table 4: Targets for the MTA Oligos of Table 3

Compound	Target
EPI 2010	Adenosine A1 receptor
EPI 2045	Adenosine A3 receptor
EPI 2873, EPI 2193	NFκB
EPI 1873	Interleukin-1
EPI 1857	Interleukin -5
EPI 2945	Interleukin -4
EPI 2977	Interleukin -8
EPI 2031	5-Lipoxygenase
EPI 1898	Leukotriene C-4 Synthase
EPI 1856	Eotaxin
EPI 1131	ICAM
EPI 1085	VCAM
EPI 2085	TNFα
EPI 1908	PAF
EPI 1925	IL-4 receptor
EPI 2643	β2 adrenergic receptor kinase
EPI 2934	Tryptase
EPI 2033	Major Basic Protein
EPI 2795	Eosinophil Peroxidase

NfκB: nuclear factor κB

ICAM: intracellular adhesion molecule

VCAM: vascular cell adhesion molecule

TNF: tumor necrosis factor

PAF: platelet activating factor

The mRNA sequence of the targeted protein may be derived from the nucleotide sequence of the gene expressing the protein, whether for existing targets or those to be found in the future. Sequences for many target genes of different systems are presently known. See, GenBank data base, NIH, the entire sequences of which are incorporated here by reference. The sequences of those genes, whose sequences are not yet available, may be obtained by isolating the target segments applying technology known in the art. Once the sequence of the gene, its RNA and/or the protein are known, anti-sense oligonucleotides are produced as described above and utilized to validate the target by in vivo administration and testing for a reduction of the production of the targeted protein in accordance with standard techniques, and of specific functions. As already described above, the anti-sense oligonucleotides may be of any suitable length, e.g., from about 7 to about 60 nucleotides in length, depending on the particular target being bound and the mode of delivery thereof. The anti-sense oligonucleotide preferably is directed to an mRNA region containing a junction between intron and exon or to regions vicinal to the junction. Where the anti-sense oligonucleotide is directed to an intron/exon junction, it may either entirely overlie the junction or may be sufficiently close to the junction to inhibit splicing out of the intervening exon during processing of precursor mRNA to mature mRNA, e.g., with the 3' or 5' terminus of the anti-sense oligonucleotide being positioned within about, for example, 10, 5, 3, or 2 nucleotide of the intron/exon junction. Also preferred are anti-sense oligonucleotides which overlap the initiation codon and, more generally, those that target the coding region of the target mRNA. When practicing the present invention, the anti-sense oligonucleotides administered may be related in origin to the species to which it is administered. When treating humans, human anti-sense may be used if desired. Anti-sense oligos to endogenous sequences from other species,

however, are also encompassed.

Pharmaceutical compositions comprising an anti-sense oligonucleotide as given above effective to reduce expression of an A₁ or A₃ adenosine receptor by passing through a cell membrane and binding specifically with mRNA encoding an A₁ or A₃ adenosine receptor in the cell so as to prevent its translation are another aspect of the present invention. Such compositions are provided in a suitable pharmaceutically acceptable carrier, e.g., sterile pyrogen-free saline solution. The anti-sense oligonucleotides may be formulated with a hydrophobic carrier capable of passing through a cell membrane, e.g., in a liposome, with the liposomes carried in a pharmaceutically acceptable aqueous carrier. The oligonucleotides may also be coupled to a substance which inactivates mRNA, such as a ribozyme. Such oligonucleotides may be administered to a subject to inhibit the activation of a target, such as the adenosine receptors, which subject is in need of such treatment for any of the reasons discussed herein. Furthermore, the pharmaceutical formulation may also contain chimeric molecules comprising anti-sense oligonucleotides attached to molecules which are known to be internalized by cells. These oligonucleotide conjugates utilize cellular uptake pathways to increase cellular concentrations of oligonucleotides. Examples of macromolecules used in this manner include transferrin, asialoglycoprotein (bound to oligonucleotides via polylysine) and streptavidin. In the pharmaceutical formulation, the anti-sense compound may be contained within a lipid particle or vesicle, such as a liposome or microcrystal. The particles may be of any suitable structure, such as unilamellar or plurilamellar, so long as the anti-sense oligonucleotide is contained therein. Positively charged lipids such as N-[1-(2,3-dioleoyloxy)propyl]-N,N,N-trimethylammoniummethylsulfate, or "DOTAP," are particularly preferred for such particles and vesicles. The preparation of such lipid particles is well known. See, e.g., U.S. Patent Nos. 4,880,635 to Janoff et al.; 4,906,477 to Kurono et al.; 4,911,928 to Wallach; 4,917,951 to Wallach; 4,920,016 to Allen et al.; 4,921,757 to Wheatley et al.; etc.

Subjects may be administered the active composition by any means which transports the anti-sense nucleotide composition to the lung. The anti-sense compounds are particularly disclosed herein may be administered to the lungs of a patient by any suitable means, but are preferably administered by generating an aerosol comprised of respirable particles, the respirable particles comprised of the anti-sense compound, which particles the subject inhales. The respirable particles may be liquid or solid. The particles may optionally contain other therapeutic ingredients. Particles comprised of anti-sense compound for practicing the present invention should include particles of respirable size: that is, particles of a size sufficiently small to pass through the mouth and larynx upon inhalation and into the bronchi and alveoli of the lungs. In general particles ranging from about .5 to about 10 microns in size are respirable. Particles of non-respirable size which are included in the aerosol tend to deposit in the throat and be swallowed, and the quantity of non-respirable particles in the aerosol is preferably minimized. For nasal administration, a particle size in the range of 10-500 nm is preferred to ensure retention in the nasal cavity. Thus, particles of about 4, about 10, about 25, about 50 to about 75, about 100, about 250, about 500, and other specific ranges therewithin, are preferred. Others, however, are also contemplated within the confines of this invention.

Liquid pharmaceutical compositions of active compound for producing an aerosol can be prepared by combining the anti-sense compound with a suitable vehicle, such as sterile pyrogen free water. Other therapeutic compounds may optionally be included. Solid particulate compositions containing respirable dry particles of micronized anti-sense compound may be prepared by grinding dry anti-sense compound with a mortar and pestle, and then passing the micronized composition through a 400 mesh screen to break up or separate out large agglomerates. A solid particulate composition comprised of the anti-sense compound may optionally contain a dispersant which serves to facilitate the formation of an aerosol. A suitable dispersant is lactose, which may be blended with the anti-sense compound in any suitable ratio (e.g., a 1 to 1 ratio by weight). Again, other therapeutic compounds may also be included.

The dosage of the anti-sense compound administered will depend upon the disease being treated, the condition of the subject, the particular formulation, the route of administration, the timing of administration to a subject, etc. In general, intracellular concentrations of the oligonucleotide of from about

0.01, about 0.05, about 0.1, about 0.2, about 1 to about 5 μM , about 50 μM , about 100 μM or more, and more particularly about 0.2 to about 0.5 μM , are desired. For administration to a subject such as a human, a dosage of from about 0.01, about 0.1 or about 1 mg/Kg up to about 50, about 100, or about 150 mg/Kg and even higher doses are typically employed depending on the route of administration as is known in the art.

5 Depending on the solubility of the particular formulation of active compound administered, the daily dose may be divided among one or several unit dose administrations. Administration of the anti-sense compounds may be carried out therapeutically (i.e., as a rescue treatment) or prophylactically. Aerosols of liquid particles comprising the anti-sense compound may be produced by any suitable means, such as with a nebulizer. See, e.g., U.S. Patent No. 4,501,729. Nebulizers are commercially available devices which

10 transform solutions or suspensions of the active ingredient into a therapeutic aerosol mist either by means of acceleration of a compressed gas, typically air or oxygen, through a narrow venturi orifice or by means of ultrasonic agitation. Suitable formulations for use in nebulizers consist of the active ingredient in a liquid carrier, the active ingredient comprising up to 40% w/w of the formulation, but preferably less than 20% w/w. The carrier is typically water or a dilute aqueous alcoholic solution, preferably made isotonic

15 with body fluids by the addition of, for example, sodium chloride. Optional additives include preservatives if the formulation is not prepared sterile, for example, methyl hydroxybenzoate, antioxidants, flavoring agents, volatile oils, buffering agents and surfactants.

In one preferred embodiment, the pharmaceutical composition comprises nucleic acid(s) which comprise the anti-sense oligo(s) described above and one or more surfactants. Suitable surfactants or

20 surfactant components for enhancing the uptake of the anti-sense oligonucleotides of the invention include synthetic and natural as well as full and truncated forms of surfactant protein A, surfactant protein B, surfactant protein C, surfactant protein D and surfactant Protein E, di-saturated phosphatidylcholine (other than dipalmitoyl), dipalmitoylphosphatidylcholine, phosphatidylcholine, phosphatidylglycerol, phosphatidylinositol, phosphatidylethanolamine, phosphatidylserine; phosphatidic acid, ubiquinones,

25 lysophosphatidylethanolamine, lysophosphatidylcholine, palmitoyl-lysophosphatidylcholine, dehydroepiandrosterone, dolichols, sulfatidic acid, glycerol-3-phosphate, dihydroxyacetone phosphate, glycerol, glycerol-3-phosphocholine, dihydroxyacetone, palmitate, cytidine diphosphate (CDP) diacylglycerol, CDP choline, choline, choline phosphate; as well as natural and artificial lamellar bodies which are the natural carrier vehicles for the components of surfactant, omega-3 fatty acids, polyenic acid,

30 polyenoic acid, lecithin, palmitinic acid, non-ionic block copolymers of ethylene or propylene oxides, polyoxypropylene, monomeric and polymeric, polyoxyethylene, monomeric and polymeric, poly (vinyl amine) with dextran and/or alkanoyl side chains, Brij 35, Triton X-100 and synthetic surfactants ALEC, Exosurf, Survan and Atovaquone, among others. These surfactants may be used either as a single, or as part of a multiple component, surfactant in a formulation, or as covalently bound additions to the 5' and/or

35 3' ends of the anti-sense oligo(s). Aerosols of solid particles comprising the active compound may likewise be produced with any solid particulate medicament aerosol generator. Aerosol generators for administering solid particulate medicaments to a subject produce particles which are respirable, as explained above, and generate a volume of aerosol containing a predetermined metered dose of a medicament at a rate suitable for human administration. One illustrative type of solid particulate aerosol

40 generator is an insufflator. Suitable formulations for administration by insufflation include finely comminuted powders which may be delivered by means of an insufflator or taken into the nasal cavity in the manner of a snuff. In the insufflator, the powder (e.g., a metered dose thereof effective to carry out the treatments described herein) is contained in capsules or cartridges, typically made of gelatin or plastic, which are either pierced or opened in situ and the powder delivered by air drawn through the device upon

45 inhalation or by means of a manually-operated pump. The powder employed in the insufflator consists either solely of the active ingredient or of a powder blend comprising the active ingredient, a suitable powder diluent, such as lactose, and an optional surfactant. The active ingredient typically comprises from 0.1 to 100 w/w of the formulation. A second type of illustrative aerosol generator comprises a metered dose inhaler. Metered dose inhalers are pressurized aerosol dispensers, typically containing a suspension or

solution formulation of the active ingredient in a liquefied propellant. During use these devices discharge the formulation through a valve adapted to deliver a metered volume, typically from 10 to 150 μ l, to produce a fine particle spray containing the active ingredient. Suitable propellants include certain chlorofluorocarbon compounds, for example, dichlorodifluoromethane, trichlorofluoromethane, dichlorotetrafluoroethane and mixtures thereof. The formulation may additionally contain one or more co-solvents, for example, ethanol, surfactants, such as oleic acid or sorbitan trioleate, antioxidants and suitable flavoring agents. The aerosol, whether formed from solid or liquid particles, may be produced by the aerosol generator for example at a rate of from about 10, about 30, about 70 to about 100, about 150, about 150 liters per minute, more preferably from about 30 to 150 liters per minute, and most preferably about 60 liters per minute. Aerosols containing greater amounts of medicament, however, may be administered more rapidly as is known in the art.

The relevant disclosures of all scientific publications and patent references cited in this patent are specifically intended to be incorporated herein by reference, particularly in reference to preparatory methods and technologies which are enabling of the invention. The following examples are provided to illustrate the present invention, and should not be construed as limiting thereon.

EXAMPLES

In the following examples, μ M means micromolar, ml means milliliters, μ m means micrometers, mm means millimeters, cm means centimeters, EC means degrees Celsius, μ g means micrograms, mg means milligrams, g means grams, kg means kilograms, M means molar, and h or hr. means hours.

Example 1: Design and Synthesis of Anti-sense Oligonucleotides

The design of anti-sense oligonucleotides against the A_1 and A_3 adenosine receptors may require the solution of the complex secondary structure of the target A_1 receptor mRNA and the target A_3 receptor mRNA. After generating this structure, anti-sense nucleotide are designed which target regions of mRNA which might be construed to confer functional activity or stability to the mRNA and which optimally may overlap the initiation codon. Other target sites are readily usable. As a demonstration of specificity of the anti-sense effect, other oligonucleotides not totally complementary to the target mRNA, but containing identical nucleotide compositions on a w/w basis, are included as controls in anti-sense experiments.

The mRNA secondary structure of the adenosine A_1 receptor was analyzed and used as described above to design a phosphorothioate anti-sense oligonucleotide. The anti-sense oligonucleotide which was synthesized was designated HAdA₁AS and had the following sequence: 5' -GAT GGA GGG CGG CAT GGC GGG-3' (SEQ ID NO:1). As a control, a mismatched phosphorothioate anti-sense nucleotide designated HAdA1MM1 was synthesized with the following sequence: 5' -GTA GCA GGC GGG GAT GGG GGC-3' (SEQ ID NO:2). Each oligonucleotide had identical base content and general sequence structure. Homology searches in GENBANK (release 85.0) and EMBL (release 40.0) indicated that the anti-sense oligonucleotide was specific for the human and rabbit adenosine A_1 receptor genes, and that the mismatched control was not a candidate for hybridization with any known gene sequence.

The secondary structure of the adenosine A_3 receptor mRNA was similarly analyzed and used as described above to design two phosphorothioate anti-sense oligonucleotides. The first anti-sense oligonucleotide (HAdA3AS1) synthesized had the following sequence: 5' -GTT GTT GGG CAT CTT GCC-3' (SEQ ID NO:3). As a control, a mismatched phosphorothioate anti-sense oligonucleotide (HAdA3MM1) was synthesized, having the following sequence: 5' -GTA CTT GCG GAT CTA GGC-3' (SEQ ID NO:4). A second phosphorothioate anti-sense oligonucleotide (HAdA3AS2) was also designed and synthesized, having the following sequence: 5' -GTG GGC CTA GCT CTC GCC-3' (SEQ ID NO:5). Its control oligonucleotide (HAdA3MM2) had the sequence: 5' -GTC GGG GTA CCT GTC GGC-3' (SEQ ID NO:6). Phosphorothioate oligonucleotides were synthesized on an Applied Biosystems Model 396 Oligonucleotide Synthesizer, and purified using NENSORB chromatography (DuPont, MD).

Example 2: In Vivo Testing of Adenosine A_1

Receptor Anti-sense Oligos

The anti-sense oligonucleotide against the human A₁ receptor (SEQ ID NO:1) described above. was tested for efficacy in an in vitro model utilizing lung adenocarcinoma cells HTB-54. HTB-54 lung adenocarcinoma cells were demonstrated to express the A₁ adenosine receptor using standard northern blotting procedures and receptor probes designed and synthesized in the laboratory.

HTB-54 human lung adenocarcinoma cells (106/100 mm tissue culture dish) were exposed to 5.0 μ M HAdA1AS or HAdAIMM1 for 24 hours, with a fresh change of media and oligonucleotides after 12 hours of incubation. Following 24 hour exposure to the oligonucleotides, cells were harvested and their RNA extracted by standard procedures. A 21-mer probe corresponding to the region of mRNA targeted by the anti-sense (and therefore having the same sequence as the anti-sense, but not phosphorothioated) was synthesized and used to probe northern blots of RNA prepared from HAdA1AS-treated, HAdAIMM1-treated and non-treated HTB-54 cells. These blots showed clearly that HAdA1AS but not HAdAIMM1 effectively reduced human adenosine receptor mRNA by >50%. This result showed that HAdA1AS is a good candidate for an anti-asthma drug since it depletes intracellular mRNA for the adenosine A₁ receptor, which is involved in asthma.

Example 3: In Vivo Efficacy of Adenosine A₁ Receptor Anti-sense Oligos

A fortuitous homology between the rabbit and human DNA sequences within the adenosine A₁ gene overlapping the initiation codon permitted the use of the phosphorothioate anti-sense oligonucleotides initially designed for use against the human adenosine A₁ receptor in a rabbit model. Neonatal New Zealand white Pasteurella-free rabbits were immunized intraperitoneally within 24 hours of birth with 312 antigen units/ml house dustmite (*D. farinae*) extract (Berkeley Biologicals, Berkeley, CA), mixed with 10% kaolin. Immunizations were repeated weekly for the first month and then biweekly for the next 2 months. At 3-4 months of age, eight sensitized rabbits were anesthetized and relaxed with a mixture of ketamine hydrochloride (44 mg/kg) and acepromazine maleate (0.4 mg/kg) administered intramuscularly. The rabbits were then laid supine in a comfortable position on a small molded, padded animal board and intubated with a 4.0-mm intratracheal tube (Mallinkrodt, Inc., Glens Falls, NY). A polyethylene catheter of external diameter 2.4 mm with an attached latex balloon was passed into the esophagus and maintained at the same distance (approximately 16 cm) from the mouth throughout the experiments. The intratracheal tube was attached to a heated Fleisch pneumotachograph (size 00; DOM Medical, Richmond, VA), and flow was measured using a Validyne differential pressure transducer (Model DP-45161927; Validyne Engineering Corp., Northridge, CA) driven by a Gould carrier amplifier (Model 11-4113; Gould Electronic, Cleveland, OH). The esophageal balloon was attached to one side of the differential pressure transducer, and the outflow of the intratracheal tube was connected to the opposite side of the pressure transducer to allow recording of transpulmonary pressure. Flow was integrated to give a continuous tidal volume, and measurements of total lung resistance (RL) and dynamic compliance (C_{dyn}) were calculated at isovolumetric and flow zero points, respectively, using an automated respiratory analyzer (Model 6; Buxco, Sharon, CT). Animals were randomized and on Day 1 pretreatment values for PC50 were obtained for aerosolized adenosine. Anti-sense (HAdA1AS) or mismatched control (HAdAIMM) oligonucleotides were dissolved in sterile physiological saline at a concentration of 5000 μ g (5 mg) per 1.0 ml. Animals were subsequently administered the aerosolized anti-sense or mismatch oligonucleotide via the intratracheal tube (approximately 5000 μ g in a volume of 1.0 ml), twice daily for two days. Aerosols of either saline, adenosine, or anti-sense or mismatch oligonucleotides were generated by an ultrasonic nebulizer (DeVilbiss, Somerset, PA), producing aerosol droplets 80% of which were smaller than 5 μ m in diameter. In the first arm of the experiment, four randomly selected allergic rabbits were administered anti-sense oligonucleotide and four the mismatched control oligonucleotide. On the morning of the third day, PC50 values (the concentration of aerosolized adenosine in mg/ml required to reduce the dynamic compliance of the bronchial airway 50% from the baseline value) were obtained and compared to PC50 values obtained for these animals prior to exposure to oligonucleotide. Following a 1 week interval, animals were crossed

over, with those previously administered mismatch control oligonucleotide now administered anti-sense oligonucleotide, and those previously treated with anti-sense oligonucleotide now administered mismatch control oligonucleotide. Treatment methods and measurements were identical to those employed in the first arm of the experiment. It should be noted that in six of the eight animals treated with anti-sense oligonucleotide, adenosine-mediated bronchoconstriction could not be obtained up to the limit of solubility of adenosine, 20 mg/ml. For the purpose of calculation, PC50 values for these animals were set at 20 mg/ml. The values given therefore represent a minimum figure for anti-sense effectiveness. Actual effectiveness was higher. The results of this experiment are illustrated in Table 5 below.

Table 5: Effect of Adenosine A₁ Receptor Anti-sense Oligo upon PC50 Values in Asthmatic Rabbits

Mismatch Control		A ₁ Receptor Anti-sense Oligo	
Pre Oligonucleotide	Post Oligonucleotide	Pre Oligonucleotide	Post Oligonucleotide
3.56 ± 1.02	5.16 ± 1.03	2.36 ± 0.68	>19.5 ± 0.34**

The results are presented as the mean (n=8) ± SEM.

The significance was determined by repeated-measures analysis of variance (ANOVA), and Tukey's protected test.

**Significantly different from all other groups, p<0.01

In both arms of the experiment, animals receiving the anti-sense oligonucleotide showed an order of magnitude increase in the dose of aerosolized adenosine required to reduce dynamic compliance of the lung by 50%. No effect of the mismatched control oligonucleotide upon PC50 values was observed. No toxicity was observed in any animal receiving either anti-sense or control inhaled oligonucleotide. These results show clearly that the lung has exceptional potential as a target for anti-sense oligonucleotide-based therapeutic intervention in lung disease. They further show, in a model system which closely resembles human asthma, that downregulation of the adenosine A₁ receptor largely eliminates adenosine-mediated bronchoconstriction in asthmatic airways. Bronchial hyperresponsiveness in the allergic rabbit model of human asthma is an excellent endpoint for anti-sense intervention since the tissues involved in this response lie near to the point of contact with aerosolized oligonucleotides, and the model closely simulates an important human disease.

Example 4: Specificity of A₁-adenosine Receptor Anti-sense Oligonucleotide

At the conclusion of the cross-over experiment of Example 3 above, airway smooth muscle from all rabbits was quantitatively analyzed for adenosine A₁ receptor number. As a control for the specificity of the anti-sense oligonucleotide, adenosine A₂ receptors, which should not have been affected, were also quantified. Airway smooth muscle tissue was dissected from each rabbit and a membrane fraction prepared according to the method of Kleinstein et al. (Kleinstein, J. and Glossmann, H., Naunyn-Schmiedeberg's Arch. Pharmacol. 305: 191-200 (1978)), the relevant portion of which is hereby incorporated in its entirety by reference, with slight modifications. Crude plasma membrane preparations were stored at 70°C until the time of assay. Protein content was determined by the method of Bradford (M. Bradford, Anal. Biochem. 72, 240-254 (1976), the relevant portion of which is hereby incorporated in its entirety by reference). Frozen plasma membranes were thawed at room temperature and were incubated with 0.2 U/ml adenosine deaminase for 30 minutes at 37°C to remove endogenous adenosine. The binding of [³H] DPCPX (A₁ receptor-specific) or [³H] CGS-21680 (A₁ receptor-specific) was measured as previously described by Ali et al. (Ali, S. et al., J. Pharmacol. Exp. Ther. 268, Am. J. Physiol 266, L271-277 (1994), the relevant portion of which is hereby incorporated in its entirety by reference). The animals treated with adenosine A₁ anti-sense oligonucleotide in the cross-over experiment had a nearly 75% decrease in A₁ receptor number compared to controls, as assayed by specific binding of the A₁-specific antagonist DPCPX. There was no change in adenosine A₂ receptor number, as assayed by specific binding of the A₂ receptor-specific agonist 2- [p- (2-carboxyethyl)-phenethylamino] -5' - (N-ethylcarboxamido) adenosine (CGS-21630). This is illustrated in Table 6 below.

Table 6: Specificity of Action of Adenosine A₁ Receptor Oligonucleotide Anti-sense

Mismatch Control Oligonucleotide	A ₁ Anti-sense Oligonucleotide
----------------------------------	---

A₁-Specific Binding	1105 ± 48**	293 ± 18
A₂-Specific Binding	302 ± 22	442 ± 171

The results are presented as the mean (n = 8) ± SEM.

The significance was determined by repeated-measures analysis of variance (ANOVA), and Tukey's protected test

**Significantly different from mismatch control, p<0.01.

The above results illustrate the effectiveness of anti-sense oligonucleotides in treating airway disease. Since the anti-sense oligos described above eliminate the receptor systems responsible for adenosine-mediated bronchoconstriction, it may be less imperative to eliminate adenosine from them. However, it would be preferable to eliminate adenosine from even these oligonucleotides to reduce the dose needed to attain a similar effect. Described above are other anti-sense oligonucleotides targeting mRNA of proteins involved in inflammation. Adenosine has been eliminated from their nucleotide content to prevent its liberation during degradation.

Example 5: Anti-sense Oligos directed to other Target Nucleic Acids

This work was conducted to demonstrate that the present invention is broadly applicable to anti-sense oligonucleotides ("oligos") specific to nucleic acid targets broadly. The following experimental studies were conducted to show that the method of the invention is broadly suitable for use with anti-sense oligos designed as taught by this application and targeted to any and all adenosine receptor mRNAs. For this purpose, various anti-sense oligos were prepared to adenosine receptor mRNAs exemplified by the adenosine A₁, A_{2b} and A₃ receptor mRNAs. Anti-sense Oligo I was disclosed above (SEQ. ID NO:1). Five additional anti-sense phosphorothioate oligos were designed and synthesized as indicated above.

- 1- Oligo II (SEQ. ID NO: 7) also targeted to the adenosine A₁ receptor, but to a different region than Oligo I.
- 2- Oligo V (SEQ. ID NO: 10) targeted to the adenosine A_{2b} receptor.
- 3- Oligos III (SEQ. ID NO: 8) and IV (SEQ. ID NO: 9) targeted to different regions of the adenosine A₃ receptor.
- 4- Oligo I-PD (SEQ. ID NO: 1681) (a phosphodiester oligo of the same sequence as Oligo I).

These anti-sense oligos were designed for therapy on a selected species as described above and are generally specific for that species, unless the segment of the target mRNA of other species happens to contain a similar sequence. All anti-sense oligos were prepared as described below, and tested in vivo in a rabbit model for bronchoconstriction, inflammation and allergy, which have breathing difficulties and impeded lung airways, as is the case in ailments such as asthma, as described in the above-identified application.

Example 6: Design & Sequences of other Anti-sense Oligos

Six oligos and their effects in a rabbit model were studied and the results of these studies are reported and discussed below. Five of these oligos were selected for this study to complement the data on Oligo I (SEQ ID NO: 1) provided in Examples 1 to 4 above. This oligo is anti-sense to one region of the adenosine A₁ receptor mRNA. The oligos tested are identified as anti-sense Oligos I (SEQ ID NO: 1) and II (SEQ. ID No: 7) targeted to a different region of the adenosine A₁ receptor mRNA, Oligo V (SEQ. ID No:8) targeted to the adenosine A_{2b} receptor mRNA, and anti-sense Oligos III and IV (SEQ. ID NOS: 9 and 10) targeted to two different regions of the adenosine A₃ receptor mRNA. The sixth oligo (Oligo I-PD) is a phosphodiester version of Oligo I (SEQ. ID NO:1). The design and synthesis of these anti-sense oligos was performed in accordance with Example 1 above.

(I) Anti-sense Oligo I

The anti-sense oligonucleotide I referred to in Examples 1 to 4 above is targeted to the human A₁ adenosine receptor mRNA (EPI 2010). Anti-sense oligo I is 21 nucleotide long, overlaps the initiation codon, and has the following sequence: 5'-GAT GGA GGG CGG CAT GGC GGG-3' (SEQ. ID NO:1). The oligo I was previously shown to abrogate the adenosine-induced bronchoconstriction in allergic rabbits, and to reduce allergen-induced airway obstruction and bronchial hyperresponsiveness (BHR), as discussed above and shown by Nyce, J. W. & Metzger, W. J., Nature, 385:721 (1977), the relevant portions of which reference are incorporated in their entirety herein by reference.

(II) Anti-sense Oligo II

A phosphorothioate anti-sense oligo (SEQ. ID NO:7) was designed in accordance with the invention to target the rabbit adenosine A₁ receptor mRNA region +936 to +956 relative to the initiation codon (start site). The anti-sense oligo II is 21 nucleotide long, and has the following sequence: 5'-CTC GTC GCC GTC GCC GGC GGG-3' (SEQ. ID NO:7).

5 (III) Anti-sense Oligo III

A phosphorothioate anti-sense oligo other than that provided in Example 1 above (SEQ. ID NO:8) was designed in accordance with the invention to target the anti-sense A₃ receptor mRNA region +3 to +22 relative to the initiation codon start site. The anti-sense oligo III is 20 nucleotide long, and has the following sequence: 5'-GGG TGG TGC TAT TGT CGG GC-3' (SEQ. ID NO:8).

10 (IV) Anti-sense Oligo IV

Yet another phosphorothioate anti-sense oligo (SEQ. ID NO:9) was designed in accordance with the invention to target the adenosine A₃ receptor mRNA region +386 to +401 relative to the initiation codon (start site). The anti-sense oligo IV is 15 nucleotide long, and has the following sequence: 5'-GGC CCA GGG CCA GCC-3' (SEQ. ID NO:9).

15 (V) Anti-sense Oligo V

A phosphorothioate anti-sense oligo (SEQ. ID NO:10) was designed in accordance with the invention to target the adenosine A_{2b} receptor mRNA region -21 to -1 relative to the initiation codon (start site). The anti-sense oligonucleotide V is 21 nucleotide long, and has the following sequence: 5'-GGC CGG GCC AGC CGG GCC CGG-3' (SEQ. ID NO:10).

20 (VI) A₁ Mismatch Oligos

Two different mismatched oligonucleotides having the following sequences were used as controls for anti-sense oligo I (SEQ. ID NO: 1) described in Example 5 above: A₁ MM2:5'-GTA GGT GGC GGG CAA GGC GGG-3' (SEQ. ID NO:2421), and A₁ MM3:5'-GAT GGA GGC GGG CAT GGC GGG-3' (SEQ. ID NO:2422). Anti-sense oligo I and the two mismatch anti-sense oligos had identical base content and general sequence structure. Homology searches in GENBANK (release 85.0) and EMBL (release 40.0) indicated that the anti-sense oligo I was specific, not only for the human, but also for the rabbit, adenosine A₁ receptor genes, and that the mismatched controls were not candidates for hybridization with any known human or animal gene sequence.

(VII) Anti-sense Oligo A₁-PD (Oligo VI)

30 A phosphodiester anti-sense oligo (Oligo VI; SEQ. ID NO:2420) having the same nucleotide sequence as Oligo I was designed as disclosed in the above-identified application. Anti-sense oligo I-PD is 21 nucleotide long, overlaps the initiation codon, and has the following sequence: 5'-GAT GGA GGC CGG CAT GGC GGG-3' (SEQ. ID NO:2420).

III) Controls

35 Each rabbit was administered 5.0 ml aerosolized sterile saline following the same schedule as for the anti-sense oligos in (II), (III), and (IV) above.

Example 7: Synthesis of Anti-sense Oligos

Phosphorothioate anti-sense oligos having the sequences described in (a) above, were synthesized on an Applied Biosystems Model 396 Oligonucleotide Synthesizer, and purified using NENSORB chromatography (DuPont, DE). TETD (tetraethylthiuram disulfide) was used as the sulfurizing agent during the synthesis. Anti-sense oligonucleotide II (SEQ. ID NO:7), anti-sense oligonucleotide III (SEQ. ID NO: 8) and anti-sense oligonucleotide IV (SEQ. ID NO: 9) were each synthesized and purified in this manner.

Example 8: Preparation of Allergic Rabbits

45 Neonatal New Zealand white Pasturella-free rabbits were immunized intraperitoneally within 24 hours of birth with 0.5 ml of 312 antigen units/ml house dust mite (*D. farinae*) extract (Berkeley Biologicals, Berkeley, CA) mixed with 10% kaolin as previously described (Metzger, W. J., in Late Phase Allergic Reactions, Dorsch, W., Ed., CRC Handbook, pp. 347-362, CRC Press, Boca Raton (1990); Ali,

00404006 6294560

S., Metzger, W. J. and Mustafa, S. J., Am. J. Resp. Crit. Care Med. 149: 908 (1994)), the relevant portions of which are incorporated in their entirety here by reference. Immunizations were repeated weekly for the first month and then biweekly until the age of 4 months. These rabbits preferentially produce allergen-specific IgE antibody, typically respond to aeroallergen challenge with both an early and late-phase asthmatic response, and show bronchial hyper responsiveness (BHR). Monthly intraperitoneal administration of allergen (312 units dust mite allergen, as above) continues to stimulate and maintain allergen-specific IgE antibody and BHR. At 4 months of age, sensitized rabbits were prepared for aerosol administration as described by Ali et al. (Ali, S., Metzger, W. J. and Mustafa, S. J., Am. J. Resp. Crit. Care Med. 149 (1994)), the relevant section being incorporated in its entirety here by reference.

10 **DOSE-RESPONSE STUDIES**

Example 9: Experimental Setup

Aerosols of either adenosine (0-20 mg/ml), or anti-sense or one of two mismatch oligonucleotides (5 mg/ml) were separately prepared with an ultrasonic nebulizer (Model 646, DeVilbiss, Somerset, PA), which produced aerosol droplets, 80% of which were smaller than 5µm in diameter. Equal volumes of the aerosols were administered directly to the lungs via an intratracheal tube. The animals were randomized, and administered aerosolized adenosine. Day 1 pre-treatment values for sensitivity to adenosine were calculated as the dose of adenosine causing a 50% loss of compliance (PC₅₀ Adenosine). The animals were then administered either the aerosolized anti-sense or one of the mismatch anti-sense oligos via the intratracheal tube (5 mg/1.0 ml), for 2 minutes, twice daily for 2 days (total dose, 20 mg). Post-treatment PC₅₀ values were recorded (post-treatment challenge) on the morning of the third day. The results of these studies are provided in Example 21 below.

Example 10: Crossover Experiments

For some experiments utilizing anti-sense oligo I (SEQ ID NO: 1) and a corresponding mismatch control oligonucleotide A1MM2, following a 2 week interval, the animals were crossed over, with those previously administered the mismatch control A₁MM2, now receiving the anti-sense oligo I, and those previously treated with the anti-sense oligo I, now receiving the mismatch control A₁MM2 oligo. The number of animals per group was as follows. For mismatch A₁MM2 (Control 1), n=7, since one animal was lost in the second control arm of the experiment due to technical difficulties, for mismatch A₁MM3 n=4 (Control 2) and for A₁AS anti-sense oligo I, n=8. The A₁MM3 oligo-treated animals were analyzed separately and were not part of the cross-over experiment. The treatment methods and measurements employed following the cross-over were identical to those employed in the first arm of the experiment. In 6 of the 8 animals treated with the anti-sense oligo I (SEQ. ID NO: 1), no PC₅₀ value could be obtained for adenosine doses of up to 20 mg/ml, which is the limit of solubility of adenosine. Accordingly, the PC₅₀ values for these animals were assumed to be 20 mg/ml for calculation purposes. The values given, therefore, represent a minimum figure for the effectiveness of the anti-sense oligonucleotides of the invention. Other groups of allergic rabbits (n=4 for each group) were administered 0.5 or 0.05 mg doses of the anti-sense oligo (SEQ ID NO: 1), or the A₁MM2 oligo in the manner and according to the schedule described above (the total doses being 2.0 or 0.2 mg). The results of these studies are provided in Example 22 below.

40 **Example 11: Anti-sense Oligo Formulation**

Each one of anti-sense oligos were separately solubilized in an aqueous solution and administered as described for anti-sense oligo I (SEQ. ID No:1) in (e) above, in four 5 mg aliquots (20 mg total dose) by means of a nebulizer via endotracheal tube, as described above. The results obtained for anti-sense oligo I and its mismatch controls confirmed that the mismatch controls are equivalent to saline, as described in Example 19 below and in Table 1 of Nyce & Metzger, Nature 385: 721-725 (1997). Because of this finding, saline was used as a control for pulmonary function studies employing anti-sense oligos II, III and IV (SEQ. IS NOS; 7, 8 and 9).

Example 12: Specificity of Oligo I for Adenosine A₁ Receptor (Receptor Binding Studies)

Tissue from airway smooth muscle was dissected to primary, secondary and tertiary bronchi from rabbits which had been administered 20 mg oligo I (SEQ ID NO: 1) in 4 divided doses over a period of 48 hours as described above. A membrane fraction was prepared according to the method of Ali et al. (Ali, S., et al., Am. J. Resp. Crit. Care Med. 149: 908 (1994), the relevant section relating to the preparation of the membrane fraction is incorporated in its entirety hereby by reference). The protein content was determined by the method of Bradford and plasma membranes were incubated with 0.2 U/ml adenosine deaminase for 30 minutes at 37°C to remove endogenous adenosine. See, Bradford, M. M. Anal. Biochem. 72, 240-254 (1976), the relevant portion of which is hereby incorporated in its entirety by reference. The binding of [³H]DPCPX, [³H]NFC17731, or [³H]CGS-21680 was measured as described by Jarvis et al. See, Jarvis, M.F., et al., Pharmacol. Exptl. Ther. 251, 888-893 (1989), the relevant portion of which is fully incorporated herein by reference. The results of this study are shown in Table 8 and discussed in Example 20 below.

Example 13: Pulmonary Function Measurements (Compliance C_{DYN} and Resistance)

At 4 months of age, the immunized animals were anesthetized and relaxed with 1.5 ml of a mixture of ketamine HCl (35 mg/kg) and acepromazine maleate (1.5 mg/kg) administered intramuscularly. After induction of anesthesia, allergic rabbits were comfortably positioned supine on a soft molded animal board. Salve was applied to the eyes to prevent drying, and they were closed. The animals were then intubated with a 4.0 mm intermediate high-low cuffed Murphy 1 endotracheal tube (Mallinckrodt, Glen Falls, NY), as previously described by Zavala and Rhodes. See, Zavala and Rhodes, Proc. Soc. Exp. Biol. Med. 144: 509-512 (1973), the relevant portion of which is incorporated herein by reference in its entirety. A polyethylene catheter of OD 2.4 mm (Becton Dickinson, Clay Adams, Parsippany NJ) with an attached thin-walled latex balloon was passed into the esophagus and maintained at the same distance (approximately 16 cm) from the mouth throughout the experiment. The endotracheal tube was attached to a heated Fleisch pneumotach (size 00; DEM Medical, Richmond, VA), and the flow (v) measured using a Validyne differential pressure transducer (Model DP-45-16-1927, Validyne Engineering, Northridge, CA), driven by a Gould carrier amplifier (Model 11-4113, Gould Electronics, Cleveland, OH). An esophageal balloon was attached to one side of the Validyne differential pressure transducer, and the other side was attached to the outflow of the endotracheal tube to obtain transpulmonary pressure (P_{tp}). The flow was integrated to yield a continuous tidal volume, and the measurements of total lung resistance (R_t) and dynamic compliance (C_{dyn}) were made at isovolumetric and zero flow points. The flow, volume and pressure were recorded on an eight channel Gould 2000 W high-frequency recorder and C_{dyn} was calculated using the total volume and the difference in P_{tp} at zero flow, and R_t was calculated as the ratio of P_{tp} and V at mid-tidal lung volumes. These calculations were made automatically with the Buxco automated pulmonary mechanics respiratory analyzer (Model 6, Buxco Electronics, Sharon, CT), as previously described by Giles et al. See, Giles et al., Arch. Int. Pharmacodyn. Ther. 194: 213-232 (1971), the relevant portion of which describing these calculations is incorporated in toto hereby by reference. The results obtained upon administration of oligo II on allergic rabbits are shown and discussed in Example 26 below.

Example 14: Measurement of Bronchial Hyperresponsiveness (BHR)

Each allergic rabbit was administered histamine by aerosol to determine their baseline hyperresponsiveness. Aerosols of either saline or histamine were generated using a DeVilbiss nebulizer (DeVilbiss, Somerset, PA) for 30 seconds and then for 2 minutes at each dose employed. The ultrasonic nebulizer produced aerosol droplets of which 80% were <5 micron in diameter. The histamine aerosol was administered in increasing concentrations (0.156 to 80 mg/ml) and measurements of pulmonary function were made after each dose. The BHR was then determined by calculating the concentration of histamine (mg/ml) required to reduce the C_{dyn} 50% from baseline (PC₅₀ Histamine).

Example 15: Cardiovascular Effect of Anti-sense Oligo I

The measurement of cardiac output and other cardiovascular parameters using CardiomaxJ utilizes the principal of thermal dilution in which the change in temperature of the blood exiting the heart after a venous injection of a known volume of cool saline is monitored. A single rapid injection of cool saline was made into the right atrium via cannulation of the right jugular vein, and the corresponding changes in temperature of the mixed injectate and blood in the aortic arch were recorded via cannulation of the carotid artery by a temperature-sensing miniprobe. Twelve hours after the allergic rabbits had been treated with aerosols of oligo I (EPI 2010; SEQ. ID NO: 1) as described in (d) above, the animals were anesthetized with 0.5 ml/kg of 80% Ketamine and 20% Xylazine. This time point coincides with previous data showing efficacy for SEQ. ID NO: 1, as is clearly shown by Nyce & Metzger, (1997), supra, the pertinent disclosure being incorporated in its entirety here by reference. A thermocouple was then inserted into the left carotid artery of each rabbit, and was then advanced 6.5 cm and secured with a silk ligature. The right jugular vein was then cannulated and a length of polyethylene tubing was inserted and secured. A thermodilution curve was then established on a CardiomaxJ II (Columbus Instruments, Ohio) by injecting sterile saline at 20EC to determine the correctness of positioning of the thermocouple probe. After establishing the correctness of the position of the thermocouple, the femoral artery and vein were isolated. The femoral vein was used as a portal for drug injections, and the femoral artery for blood pressure and heart rate measurements. Once constant baseline cardiovascular parameters were established, CardiomaxJ measurements of blood pressure, heart rate, cardiac output, total peripheral resistance, and cardiac contractility were made.

Example 16: Duration of Action of Oligo I (SEQ. ID NO: 1)

Eight allergic rabbits received initially increasing log doses of adenosine by means of a nebulizer via an intra-tracheal tube as described in (f) above, beginning with 0.156 mg/ml until compliance was reduced by 50% (PC_{50} Adenosine) to establish a baseline. Six of the rabbits then received four 5 mg aerosolized doses of (SEQ. ID NO: 1) as described above. Two rabbits received equivalent amounts of saline vehicle as controls. Beginning 18 hours after the last treatment, the PC_{50} Adenosine values were tested again. After this point, the measurements were continued for all animals each day, for up to 10 days. The results of this study are discussed in Example 25 below.

Example 17: Reduction of Adenosine A_{2b} Receptor Number by Anti-sense Oligo V

Sprague Dawley rats were administered 2.0 mg respirable anti-sense oligo V (SEQ ID NO:10) three times over two days using an inhalation chamber as described above. Twelve hours after the last administration, lung parenchymal tissue was dissected and assayed for adenosine A_{2b} receptor binding using [311]-NECA as described by Nyce & Metzger (1997), supra. Controls were conducted by administration of equal volumes of saline. The results are significant at $p < 0.05$ using Student's paired t test, and are discussed in Example 28 below.

Example 18: Comparison of Oligo I & Corresponding Phosphodiester Oligo VI (SEQ. ID NO:1681)

Oligo I (SEQ ID NO:1) countered the effects of adenosine and eliminated sensitivity to it for adenosine amounts up to 20 mg adenosine/5.0 ml (the limit of solubility of adenosine). Oligo VI (SEQ ID NO:1681), the phosphodiester version of the oligonucleotide sequence, was completely ineffective when tested in the same manner. Both compounds have identical sequence, differing only in the presence of phosphorothioate residues in Oligo I (SEQ ID NO:1), and were delivered as an aerosol as described above and in Nyce & Metzger (1997), supra. Significantly different at $p < 0.001$, Student's paired t test. The results are discussed in Example 29 below.

RESULTS OBTAINED FOR ANTI-SENSE OLIGO I (SEQ. ID NO: 1)

Example 19: Results of Prior Work

The nucleotide sequence and other data for anti-sense oligo I (SEQ. ID NO: 1), which is specific for the adenosine A₁ receptor, were provided above. The experimental data showing the effectiveness of oligo I in down regulating the receptor number and activity were also provided above. Further information on the characteristics and activities of anti-sense oligo I is provided in Nyce, J. W. and Metzger, W. J., Nature 385:721 (1997), the relevant parts of which relating to the following results are incorporated in their entireties herein by reference. The Nyce & Metzger (1997) publication provided data showing that the anti-sense oligo I (SEQ. ID NO: 1):

(1) The anti-sense oligo I reduces the number of adenosine A₁ receptors in the bronchial smooth muscle of allergic rabbits in a dose-dependent manner as may be seen in Table 5 below.

(2) Anti-sense Oligo I attenuates adenosine-induced bronchoconstriction and allergen-induced bronchoconstriction.

(3) The Oligo I attenuates bronchial hyperresponsiveness as measured by PC₅₀ histamine, a standard measurement to assess bronchial hyperresponsiveness. This result clearly demonstrates anti-inflammatory activity of the anti-sense oligo I as is shown in Table 5 above.

(4) As expected, because it was designed to target it, the anti-sense oligo I is totally specific for the adenosine A₁ receptor, and has no effect at all at any dose on either the very closely related adenosine A₂ receptor or the related bradykinin B₂ receptor. This is seen in Table 5 below.

(5) In contradistinction to the above effects of the Oligo I, the mismatch control molecules MM2 and MM3 (SEQ. ID NO:1682 and SEQ. ID NO:1683) which have identical base composition and molecular weight but differed from the anti-sense oligo I (SEQ ID NO: 1) by 6 and 2 mismatches, respectively. These mismatches, which are the minimum possible while still retaining identical base composition, produced absolutely no effect upon any of the targeted receptors (A₁, A₂ or B₂).

These results, along with a complete lack of prior art on the use of anti-sense oligonucleotides, such as oligo I, targeted to the adenosine A₁ receptor, are unexpected results. The showings presented in this patent clearly enable and demonstrate the effectiveness, for their intended use, of the claimed agents and method for treating a disease or condition associated with lung airway, such as bronchoconstriction, inflammation, allergy(ies), and the like.

Example 20: Oligo I Significantly Reduces Response to Adenosine Challenge

The receptor binding experiment is described in Example 12 above, and the results shown in Table 5 below which shows the binding characteristics of the adenosine A₁-selective ligand [³H]DPCPX and the bradykinin B₂-selective ligand [³H]NPC 17731 in membranes isolated from airway smooth muscle of A₁ adenosine receptor and B₂ bradykinin receptor anti-sense- and mismatch-treated allergic rabbits.

Table 5: Binding Characteristics of Three Anti-Sense Oligos

Treatment ¹	A ₁ receptor		B ₂ receptor	
	Kd	B _{max}	Kd	Bmax
Adenosine A₁	Receptor			
20 mg	0.36±0.029 nM	19±1.52 fmoles*	0.39±0.031 nM	14.8±0.99fmoles
2 mg	0.38±0.030 nM	32±2.56 fmoles*	0.41±0.028 nM	15.5±1.08
0.2 mg	0.37±0.030 nM	49±3.43 fmoles	0.34±0.024 nM	15.0±1.06
A₁MM1	(Control)			
20 mg	0.34±0.027 nM	52.0±3.64 fmoles	0.35±0.024 nM	14.0±1.0 fmoles
2 mg	0.37±0.033 nM	51.8±3.88 fmoles	0.38±0.028 nM	14.6±1.02
B₂A (Bradykinin	Receptor)			
20 mg	0.36±0.028 nM	45.0±3.15 fmoles	0.38±0.027 nM	8.7±0.62

2 mg	0.39±0.035 nM	44.3±2.90 fmoles	0.34±0.024 nM	11.9±0.76
0.2 mg	0.40±0.028 nM	47.0±3.76 fmoles	0.35±0.028 nM	15.1±1.05 fmoles
B₂MM				
20 mg	0.39±0.031 nM	42.0±2.94 fmoles	0.41±0.029 nM	14.0±0.98 fmoles
2 mg	0.41±0.035 nM	40.0±3.20 fmoles	0.37±0.030 nM	14.8±0.99 fmoles
0.2 mg	0.37±0.029 nM	43.0±3.14 fmoles	0.36±0.025 nM	15.1±1.35 fmoles
Saline Control	0.37±0.041	46.0±5.21	0.39±0.047 nM	14.2±1.35 fmoles

¹ Refers to total oligo administered in four equivalently divided doses over a 48 hour period. Treatments and analyses were performed as described in methods. Significance was determined by repeated-measures analysis of variance (ANOVA), and Tukey's protected t test. n = 4-6 for all groups.

* Significantly different from mismatch control- and saline-treated groups, p<0.001;

**Significantly different from mismatch control- and saline-treated groups, p<0.05.

Example 21: Dose-response Effect of Oligo I

Anti-sense oligo I (SEQ ID NO:1) was found to reduce the effect of adenosine administration to the animal in a dose-dependent manner over the dose range tested as shown in Table 6 below.

Table 6: Dose-Response Effect to Anti-sense Oligo I

Total Dose (mg)	PC ₅₀ Adenosine (mg Adenosine)
Anti-sense Oligo I	
0.2	8.32±7.2
2.0	14.0±7.2
20	19.5±0.34
A₁MM2 oligo (control)	
0.2	2.51±0.46
2.0	3.13± 0.71
20	3.25± 0.34
The above results were studied with the Student's paired t test and found to be statistically different, p=0.05	

The oligo I (SEQ. ID NO:1), an anti-adenosine A₁ receptor oligo, acts specifically on the adenosine A₁ receptor, but not on the adenosine A₂ receptors. These results stem from the treatment of rabbits with anti-sense oligo I (SEQ. ID NO:1) or mismatch control oligo (SEQ. ID NO:1682; A₁MM2) as described in Example 9 above and in Nyce & Metzger (1997), supra (four doses of 5 mg spaced 8 to 12 hours apart via nebulizer via endotracheal tube), bronchial smooth muscle tissue excised and the number of adenosine A₁ and adenosine A₂ receptors determined as reported in Nyce & Metzger (1997), supra.

Example 22: Specificity of Oligo I (SEQ. ID NO:1) for Target Gene Product

Oligo I (SEQ. ID No:1) is specific for the adenosine A₁ receptor whereas its mismatch controls had no activity. Figure 1 depicts the results obtained from the cross-over experiment described in Example 10 above and in Nyce & Metzger (1997), supra. The two mismatch controls (SEQ. ID NO:1682 and SEQ. ID NO:1683) evidenced no effect on the PC₅₀ Adenosine value. On the contrary, the administration of anti-sense oligo I (SEQ. ID NO:1) showed a seven-fold increase in the PC₅₀ Adenosine value. The results clearly indicate that the anti-sense oligo I (SEQ. ID NO: 1) reduces the response (attenuates the sensitivity) to exogenously administered adenosine when compared with a saline control. The results provided in Table 6 above clearly establish that the effect of the anti-sense oligo I is dose dependent (see, column 3 of Table 5). The Oligo I was also shown to be totally specific for the adenosine A₁ receptor, (see, top 3 rows of Table), inducing no activity at either the closely related adenosine A₂ receptor or the bradykinin B₂ receptor (see, lines 8-10 of Table 6 above). In addition, the results shown in Table 6 establish that the anti-sense oligo I (SEQ. ID NO:1) decreases sensitivity to adenosine in a dose dependent manner, and that it does this in an

anti-sense oligo-dependent manner since neither of two mismatch control oligonucleotides (A₁MM2; SEQ. ID NO:1682 and A₁MM3; SEQ. ID NO:1683) show any effect on PC₅₀ Adenosine values or on attenuating the number of adenosine A₁ receptors.

**Example 23: Effect on Aeroallergen-induced
Bronchoconstriction & Inflammation**

The Oligo I (SEQ. ID NO:1) was shown to significantly reduce the histamine-induced effect in the rabbit model when compared to the mismatch oligos. The effect of the anti-sense Oligo I (SEQ. ID NO:1) and the mismatch oligos (A₁MM2, SEQ. ID NO:1682 and A₁MM3, SEQ. ID NO:1682) on allergen-induced airway obstruction and bronchial hyperresponsiveness was assessed in allergic rabbits. The effect of the anti-sense oligo I (SEQ. ID NO:1) on allergen-induced airway obstruction was assessed. As calculated from the area under the plotted curve, the anti-sense oligo I significantly inhibited allergen-induced airway obstruction when compared with the mismatched control (55%, p<0.05; repeated measures ANOVA, and Tukey's t test). A complete lack of effect was induced by the mismatch oligo A₁MM2 (Control) on allergen-induced airway obstruction. The effect of the anti-sense oligo I (SEQ. ID NO:1) on allergen-induced BHR was determined as above. As calculated from the PC₅₀ Histamine value, the anti-sense oligo I (SEQ. ID NO:1) significantly inhibited allergen-induced BHR in allergic rabbits when compared to the mismatched control (61%, p<0.05; repeated measures ANOVA, Tukey's t test). A complete lack of effect of the A₁MM mismatch control on allergen-induced BHR was observed. The results indicated that anti-sense oligo I (SEQ. ID NO:1) is effective to protect against aeroallergen-induced bronchoconstriction (house dust mite). In addition, the anti-sense oligo I (SEQ. ID NO:1) was also found to be a potent inhibitor of dust mite-induced bronchial hyperresponsiveness, as shown by its effects upon histamine sensitivity which indicates anti-inflammatory activity for anti-sense oligo I (SEQ. ID NO:1).

**Example 24: Anti-sense Oligo I is Free
of Deleterious Side Effects**

The Oligo I (SEQ. ID NO:1) was shown to be free of side effects that might be toxic to the recipient. No changes in arterial blood pressure, cardiac output, stroke volume, heart rate, total peripheral resistance or heart contractility (dPdT) were observed following administration of 2.0 or 20 mg oligo I (SEQ. ID NO:1). The addition, the results of the measurement of cardiac output (CO), stroke volume (SV), mean arterial pressure (MAP), heart rate (HR), total peripheral resistance (TPR), and contractility (dPdT) with a CardiomaxJ apparatus (Columbus Instruments, Ohio) were assessed. These results evidenced that oligo I (SEQ. ID NO:1) has no detrimental effect upon critical cardiovascular parameters. More particularly, this oligo does not cause hypotension. This finding is of particular importance because other phosphorothioate anti-sense oligonucleotides have been shown in the past to induce hypotension in some model systems. Furthermore, the adenosine A₁ receptor plays an important role in sinoatrial conduction within the heart. Attenuation of the adenosine A₁ receptor by anti-sense oligo I (SEQ. ID NO:1) might be expected to result, therefore, in deleterious extrapulmonary activity in response to the downregulation of the receptor. This is not the case. The anti-sense oligo I (SEQ. ID NO:1) does not produce any deleterious intrapulmonary effects and renders the administration of the low doses of the present anti-sense oligo free of unexpected, undesirable side effects. This demonstrates that when oligo I (SEQ. ID NO:1) is administered directly to the lung, it does not reach the heart in significant quantities to cause deleterious effects. This is in contrast to traditional adenosine receptor antagonists like theophylline which do escape the lung and can cause deleterious, even life-threatening effects outside the lung.

Example 25: Long Lasting Effect of Oligo I

The Oligo I (SEQ. ID NO:1) evidenced a long lasting effect as evidenced by the PC₅₀ and Resistance values obtained upon its administration prior to adenosine challenge. The duration of the effect was measured for with respect to the PC₅₀ of adenosine anti-sense oligo I when administered in four equal doses of 5 mg each by means of a nebulizer via an endotracheal tube, as described above. The effect of the agent is significant over days 1 to 8 after administration. When the effect of the anti-sense oligo I (SEQ. ID

NO:1) had disappeared, the animals were administered saline aerosols (controls), and the PC₅₀ Adenosine values for all animals were measured again. Saline-treated animals showed base line PC₅₀ adenosine values (n=6). The duration of the effect (with respect to Resistance) was measured for six allergic rabbits which were administered 20 mg of anti-sense oligo I (SEQ. ID NO: 1) as described above, upon airway resistance measured as also described above. The mean calculated duration of effect was 8.3 days for both PC₅₀ adenosine (p<0.05) and resistance (p<0.05). These results show that anti-sense oligo I (SEQ. ID NO:1) has an extremely long duration of action, which is completely unexpected.

Example 26: Anti-sense Oligo II

Anti-sense oligo II, targeted to a different region of the adenosine A₁ receptor mRNA, was found to be highly active against the adenosine A₁-mediated effects. The experiment measured the effect of the administration of anti-sense oligo II (SEQ. ID NO:7) upon compliance and resistance values when 20 mg anti-sense oligo II or saline (control) were administered to two groups of allergic rabbits as described above. Compliance and resistance values were measured following an administration of adenosine or saline as described above in Example 13. The effect of the anti-sense oligo of the invention was different from the control in a statistically significant manner, p<0.05 using paired t-test, compliance; p<0.01 for resistance. The results showed that anti-sense oligo II (SEQ. ID NO:7), which targets the adenosine A₁ receptor, effectively maintains compliance and reduces resistance upon adenosine challenge.

Example 27: Antisense Oligos III and IV

Oligos III (SEQ. ID NO:8) and IV (SEQ. ID NO:9) were shown to be in fact specifically targeted to the adenosine A₃ receptor by their effect on reducing inflammation and the number of inflammatory cells present upon separate administration of 20 mg of the anti-sense oligos III (SEQ. ID NO:8) and IV (SEQ. ID NO:9) to allergic rabbits as described above. The number of inflammatory cells was determined in their bronchial lavage fluid 3 hours later by counting at least 100 viable cells per lavage. The effect of anti-sense oligos III (SEQ. ID NO:8) and IV (SEQ. ID NO:9) upon granulocytes, and upon total cells in bronchial lavage were assessed following exposure to dust mite allergen. The results showed that the anti-sense oligo IV (SEQ. ID NO:9) and anti-sense oligo III (SEQ. ID NO:8) are very potent anti-inflammatory agents in the asthmatic lung following exposure to dust mite allergen. As is known in the art, granulocytes, especially eosinophils, are the primary inflammatory cells of asthma, and the administration of an i-sense oligos III (SEQ. ID NO:8) and IV (SEQ. ID NO:9) reduced their numbers by 40% and 66%, respectively. Furthermore, anti-sense oligos IV (SEQ. ID NO:9) and III (SEQ. ID NO:8) also reduced the total number of cells in the bronchial lavage fluid by 40% and 80%, respectively. This is also an important indicator of anti-inflammatory activity by the present anti-adenosine A₃ agents of the invention. Inflammation is known to underlie bronchial hyperresponsiveness and allergen-induced bronchoconstriction in asthma. Both anti-sense oligonucleotides III (SEQ. ID NO:8) and IV (SEQ. ID NO:9), which are targeted to the adenosine A₃ receptor, are representative of an important new class of anti-inflammatory agents which may be designed to specifically target the lung receptors of each species.

Example 28: Anti-sense Oligo V

The anti-sense oligo V (SEQ. ID NO:10), targeted to the adenosine A_{2b} adenosine receptor mRNA was shown to be highly effective at countering adenosine A_{2b}-mediated effects and at reducing the number of adenosine A_{2b} receptors present to less than half.

Example 29: Unexpected Superiority of Substituted over Phosphodiester-residue Oligo I-DS (SEQ. ID NO:1681)

Oligos I (SEQ. ID NO:1) and I-DS (SEQ. ID NO:1681) were separately administered to allergic rabbits as described above, and the rabbits were then challenged with adenosine. The phosphodiester oligo I-DS (SEQ. ID NO:1681) was statistically significantly less effective in countering the effect of adenosine whereas oligo I (SEQ. ID NO:1) showed high effectiveness, evidencing a PC₅₀ Adenosine of 20 mg.

Example 30: Anti-sense Oligo VI

For the present work, I designed an additional anti-sense phosphorothioate oligo targeted to the adenosine A₁ receptor (Oligo VI). This anti-sense oligo was designed for therapy on a selected species as described in the above patent application and is generally specific for that species, unless the segment of the adenosine receptor mRNA of other species elected happens to have a similar sequence. The anti-sense oligos were prepared as described below, and tested in vivo in a rabbit model for bronchoconstriction, inflammation and lung allergy, which have breathing difficulties and impeded lung airways, as is the case in ailments such as asthma, as described in the above-identified application. One additional oligo and its effect in a rabbit model was studied and the results of the study are reported and discussed below. The present oligo (anti-sense oligo VI) was selected for this study to complement the data on SEQ ID NO: 1 (Oligo I), which is anti-sense to the adenosine A₁ receptor mRNA provided in the above-identified patent application. This additional oligo is identified as anti-sense Oligo VI, and is targeted to a different region of the adenosine A₁ receptor mRNA than Oligo I. The design and synthesis of this anti-sense oligo was performed in accordance with the teaching, particularly Example 1, of the above-identified patent application. The anti-sense Oligo VI is a phosphorothioate designed to target the coding region of the rabbit adenosine A₁ receptor mRNA region +964 to +984 relative to the initiation codon (start site). The Oligo VI was prepared as described in the above-indicated application, and is 20 nucleotides long. The Oligo VI is directed to the adenosine A₁ receptor gene, and has the following sequence: **5'-CGC CGG CGG GTG CGG GCC GG-3'** (SEQ. ID NO: 2). The phosphorothioate anti-sense Oligo VI having the sequence described in (5) above, was synthesized on an Applied Biosystems Model 396 Oligonucleotide Synthesizer, and purified using NENSORB chromatography (DuPont, DE). TETD (tetraethylthiuram disulfide) was used as the sulfurizing agent during the synthesis.

Example 31: Preparation of Allergic Rabbits

Neonatal New Zealand white Pasturella-free rabbits were immunized intraperitoneally within 24 hours of birth with 0.5 ml of 312 antigen units/ml house dust mite (*D. farinae*) extract (Berkeley Biologicals, Berkeley, CA) mixed with 10% kaolin as previously described (Metzger, W. J., in Late Phase Allergic Reactions, Dorsch, W., Ed., CRC Handbook, pp 347-362, CRC Press, Boca Raton, 1990; Ali, S. Et al., Am. J. Resp. Crit. Care Med. 149: 908 (1994)). The immunizations were repeated weekly for the first month and then bi-weekly until the animals were 4 months old. These rabbits preferentially produce allergen-specific IgE antibody, typically respond to aeroallergen challenge with both an early and late-phase asthmatic response, and show bronchial hyper responsiveness (BHR). Monthly intraperitoneal administration of allergen (312 units dust mite allergen, as above) continues to stimulate and maintain allergen-specific IgE antibody and BHR. At 4 months of age, sensitized rabbits were prepared for aerosol administration as described by Ali et al. (1994), supra.

Example 32: Adenosine Aerosol Preparation

An adenosine aerosol (20 mg/ml) was prepared with an ultrasonic nebulizer (Model 646, DeVilbiss, Somerset, PA), which produced aerosol droplets, 80% of which were smaller than 5 μm in diameter. Equal volumes of the aerosols were administered directly to the lungs via an intratracheal tube to all three rabbits. The animals were then administered the aerosolized adenosine and Day 1 pre-treatment values for sensitivity to adenosine were calculated as the dose of adenosine causing a 50% loss of compliance (PC₅₀ Adenosine). The animals were then administered the aerosolized anti-sense via the intratracheal tube (5 mg/1.0 ml), for 2 minutes, twice daily for 2 days (total dose, 20 mg). Post-treatment PC₅₀ values were recorded (post-treatment challenge) on the morning of the third day. The results of these studies are provided in (9) below.

Example 33: Anti-sense Oligo Formulation

Each one of anti-sense oligos were separately solubilized in an aqueous solution and administered as described for anti-sense oligo I in (e) above, in four 5 mg aliquots (20 mg total dose) by means of a nebulizer via endotracheal tube, as described above.

Example 34: Oligo VI Reduces Response to Adenosine Challenge as well or Better than Oligo I

Oligo VI was tested in three allergic rabbits of the characteristics and readied as described in (7) above and in the above-indicated patent application. Oligo VI targets a section of the coding region of the A₁ receptor which is different from Oligo I. Both these target sequences were selected randomly from many possible coding region target sequences. The three rabbits were treated identically as previously indicated for Oligo I. Briefly, 5 mg of Oligo VI were nebulized to the rabbits twice per day at 8 hour intervals, for two days. Thereafter, PC₅₀ adenosine studies were performed on the morning of the third day and compared to pre-treatment PC₅₀ values. This protocol is described in more detail in Nyce and Metzger (Nyce & Metzger, Nature 385: 721-725 (1997)). The results obtained for the three rabbits are shown in Table 7 below.

Table 7: PC₅₀ Adenosine before & after Aerosolized Adenosine Treatment

Treatment Time	PC ₅₀ Adenosine (mg)
Pre-treatment	3.0 ±2.1
Post-treatment	>20.0*
* maximum achievable dose due to adenosine insolubility in saline	

All three animals treated with Oligo VI completely eliminated sensitivity to adenosine up to the measurable level of the agent shown in Table 7 above. That is, the administration of the Oligo VI abrogated the adenosine-induced bronchoconstriction in the three allergic rabbits. The actual efficacy of Oligo VI is, therefore, greater than could be measured in the experimental system used. By comparing with the previously submitted results for the Oligo I, it may be seen that the Oligo VI was found to be as effective, or more, than Oligo I.

Example 34: Conclusions

The work described and results discussed in the examples clearly indicates that all anti-sense oligonucleotides designed in accordance with the teachings of the above-identified application were found to be highly effective at countering or reducing effects mediated by the receptors they are targeted to. That is, each and all of the two anti-sense oligos targeting an adenosine A₁ receptor mRNA, 1 anti-sense oligo targeting an adenosine A_{2b} receptor mRNA, and the 2 anti-sense oligos targeting an A₃ receptor mRNA were shown capable of countering the effect of exogenously administered adenosine which is mediated by the specific receptor they are targeted to. The activity of the anti-sense oligos of this invention, moreover, is specific to the target and substitutively fails to inhibit another target. In addition, the results presented also show that the administration of the present agents results in extremely low or non-existent deleterious side effects or toxicity. This represents 100% success in providing agents that are highly effective and specific in the treatment of bronchoconstriction and/or inflammation. This invention is broadly applicable in the same manner to all gene(s) and corresponding mRNAs encoding proteins involved in or associated with airway diseases. A comparison of the phosphodiester and a version of the same oligonucleotide wherein the phosphodiester bonds are substituted with phosphorothioate bonds evidenced an unexpected superiority for the phosphorothioate oligonucleotide over the phosphodiester anti-sense oligo.

Example 35: In Vivo Response to Adenosine Challenge with & without Oligo I Pretreatment

Two hyper responsive monkeys (ascaris sensitive) were challenged with inhaled adenosine, with and without pre-treatment with anti-sense oligo I (SEQ.ID NO: 1). The PC₄₀ adenosine was calculated from the data collected as being equivalent to that amount of adenosine in mg that causes a 40% decrease in dynamic compliance in hyper-responsive airways. The Oligo I (SEQ. ID NO:1; EPI 2010) was subsequently administered at 10 mg/day for 2 days by inhalation. On the third day, the PC adenosine was again measured. The PC₄₀ adenosine value prior to treatment with Oligo I was compared side-by-side with

to the PC₄₀ adenosine taken after administration of Oligo I (Figure not shown). The results of the experiment conducted with two animals showed that any sensitivity to adenosine was completely eliminated by the administration of the oligo of this invention in one animal, and substantially reduced in the second.

5 **Example 36: Extension of the experimental Results**

- The method of the present invention is also practiced with anti-sense oligonucleotides targeted to many genes, mRNAs and their corresponding proteins as described above, in essentially the same manner as given above, for the treatment of various conditions in the lungs. Examples of these are Human A2a adenosine receptor, Human A2b adenosine receptor, Human IgE receptor β , Human Fc-epsilon receptor
- 10 CD23 antigen (IgE receptor), Human IgE receptor, α subunit, Human IgE receptor, Fc epsilon R, Human histidine decarboxylase, Human beta tryptase, Human tryptase-I, Human prostaglandin D synthase, Human cyclooxygenase-2, Human eosinophil cationic protein, Human eosinophil derived neurotoxin, Human eosinophil peroxidase, Human intercellular adhesion molecule-1 (CAM-1), Human vascular cell adhesion molecule 1 (VCAM-1), Human endothelial leukocyte adhesion molecule (ELAM-1), Human P Selectin,
- 15 Human endothelial monocyte activating factor, Human IL3, Human IL4, Human IL5, Human IL6, Human monocyte-derived neutrophil chemotactic factor, Human neutrophil elastase (medullasin), Human neutrophil oxidase factor, Human cathepsin G, Human defensin 1, Human defensin 3, Human macrophage inflammatory protein-1-alpha, Human muscarinic acetylcholine receptor HM1, Human muscarinic acetylcholine receptor HM3, Human fibronectin, Human interleukin 8, Human GM-CSF, Human tumor
- 20 necrosis factor α , Human leukotriene C4 synthase, Human major basic protein, and many more.

The foregoing examples are illustrative of the present invention, and are not to be construed as limiting thereof. The invention is defined by the following claims, with equivalents of the claims to be included therein.

**WHAT IS CLAIMED AS NOVEL & UNOBVIOUS
IN UNITED STATES LETTERS PATENT IS:**

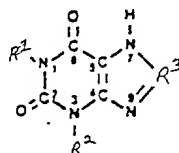
1. A pharmaceutical composition, comprising an oligonucleotide(s) (oligo(s)) which is (are) effective for alleviating bronchoconstriction and/or lung inflammation, allergy(ies), or surfactant depletion or hyposecretion, when administered to a mammal, the oligo containing about 0 to about 15% adenosine (A) and being anti-sense to a target selected from the group consisting of the initiation codon, the coding region, the 5'-end and the 3'-end genomic flanking regions, the 5' and 3' intron-exon junctions, and regions within 2 to 10 nucleotides of the junctions of a gene encoding a target polypeptide associated with lung airway dysfunction or anti-sense to the polypeptide mRNA; combinations of the oligos; and mixtures of the oligos; and a pharmaceutically or veterinarily acceptable carrier or diluent.
2. The composition of claim 1, wherein the oligo is A-free.
3. The composition of claim 1, wherein the target is selected from the group consisting of the initiation codon, the coding region, the 5'-end and the 3'-end genomic flanking regions, the 5' and 3' intron-exon junctions, and regions within 2 to 10 nucleotides of the junctions of an oncogene(s) and a gene(s) encoding a target polypeptide(s) associated with lung airway dysfunction or anti-sense to the oncogene mRNA and the polypeptide mRNA; combinations of the oligos; and mixtures of the oligos; the polypeptides being selected from the group consisting of peptide factors and transmitters, antibodies, cytokines and chemokines, enzymes, binding proteins, adhesion molecules, their receptors, and malignancy associated proteins.
4. The composition of claim 3, wherein the target is selected from the group consisting of the initiation codon, the coding region, the 5'-end and the 3'-end genomic flanking regions, the 5' and 3' intron-exon junctions, and regions within 2 to 10 nucleotides of the junctions of an oncogene(s) and a gene(s) encoding a target polypeptide(s) associated with lung airway dysfunction or anti-sense to the oncogene mRNA and the polypeptide mRNA; combinations of the oligos; and mixtures of the oligos; wherein the polypeptides are selected from the group consisting of transcription factors, stimulating and activating peptide factors, cytokines, cytokine receptors, chemokines, chemokine receptors, adenosine receptors, bradykinin receptors, endogenously produced specific and non-specific enzymes, immunoglobulins and antibodies, antibody receptors, central nervous system (CNS) and peripheral nervous and non-nervous system receptors, CNS and peripheral nervous and non-nervous system peptide transmitters, adhesion molecules, defensins, growth factors, vasoactive peptides and receptors, binding proteins, and malignancy associated proteins.
5. The agent of claim 4, wherein the encoded polypeptide(s) is(are) selected from the group consisting of adenosine receptors A1, A2a, A2b and A3, bradykinin receptors B1 and B2, Nf6B Transcription Factor, Interleukin-8 Receptor (IL-8 R), Interleukin 5 Receptor (IL-5 R), Interleukin 4 Receptor (IL-4 R), Interleukin 3 Receptor (IL-3 R), Interleukin-1 β (IL-1 β), Interleukin 1 β Receptor (IL-1 β R), Eotaxin, Tryptase, Major Basic Protein, β 2-adrenergic Receptor Kinase, Endothelin Receptor A, Endothelin Receptor B, Preproendothelin, Bradykinin B2 Receptor, IgE High Affinity Receptor, Interleukin 1 (IL-1), Interleukin 1 Receptor (IL-1 R), Interleukin 9 (IL-9), Interleukin-9 Receptor (IL-9 R), Interleukin 11 (IL-11), Interleukin-11 Receptor (IL-11 R), Inducible Nitric Oxide Synthase, Cyclooxygenase-1 (COX 1), Cyclooxygenase-2 (COX-2), Intracellular Adhesion Molecule 1 (ICAM-1) Vascular Cellular Adhesion Molecule (VCAM), Rantes, Endothelial Leukocyte Adhesion Molecule (ELAM-1), Monocyte Activating Factor, Neutrophil Chemotactic Factor, Neutrophil Elastase, Defensin 1, 2 and 3, Muscarinic Acetylcholine Receptors, Platelet Activating Factor, Tumor Necrosis Factor α , 5-lipoxygenase, Phosphodiesterase IV, Substance P, Substance P Receptor, Histamine Receptor, Chymase, CCR-1 CC Chemokine Receptor, CCR-2 CC Chemokine Receptor, CCR-3 CC Chemokine Receptor, CCR-4 CC Chemokine Receptor, CCR-5 CC Chemokine Receptor, Prostanoid Receptors, GATA-3 Transcription Factor, Neutrophil Adherence Receptor, MAP Kinase, Interleukin-9 (IL-9), NFAT Transcription Factor, STAT 4, MIP-1 α , MCP-2, MCP-3, MCP-4, Cyclophilins, Phospholipase A2, Basic

Fibroblast Growth Factor, Metalloproteinase, CSBP/p38 MAP Kinase, Tryptose Receptor, PDG2, Interleukin-3 (IL-3), Interleukin-1 β (IL-1 β), Cyclosporin A-Binding Protein, FK5-Binding Protein, α 4 β 1 Selectin, Fibronectin, α 4 β 7 Selectin, Mad CAM-1, LFA-1 (CD11a/CD18), PECAM-1, LFA-1 Selectin, C3bi, PSGL-1, E-Selectin, P-Selectin, CD-34, L-Selectin, p150,95, Mac-1 (CD11b/CD18), Fucosyl transferase, VLA-4, CD-18/CD11a, CD11b/CD18, ICAM2 and ICAM3, C5a, CCR3 (Eotaxin Receptor), CCR1, CCR2, CCR4, CCR5, LTB-4, AP-1 Transcription Factor, Protein kinase C, Cysteinyl Leukotriene Receptor, Tachykinin Receptors (tach R), I κ B Kinase 1 & 2, STAT 6, c-mas and NF-Interleukin-6 (NF-IL-6).

6. The composition of claim 1, wherein one or more As is(are) substituted by a universal base selected from the group consisting of heteroaromatic bases which bind to a thymidine base but have antagonist activity and less than about 0.3 of the adenosine base agonist or antagonist activity at the adenosine A₁, A_{2a}, A_{2b} and A₃ receptors.

7. The composition of claim 6, wherein the heteroaromatic bases are selected from the group consisting of pyrimidines and purines, which may be substituted by O, halo, NH₂, SH, SO, SO₂, SO₃, COOH and branched and fused primary and secondary amino, alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, alkoxy, alkenoxy, acyl, cycloacyl, arylacyl, alkynoxy, cycloalkoxy, aroyl, arylthio, arylsulfoxyl, halocycloalkyl, alkylcycloalkyl, alkenylcycloalkyl, alkynylcycloalkyl, haloaryl, alkylaryl, alkenylaryl, alkynylaryl, arylalkyl, arylalkenyl, arylalkynyl, arylcycloalkyl, which may be further substituted by O, halo, NH₂, primary, secondary and tertiary amine, SH, SO, SO₂, SO₃, cycloalkyl, heterocycloalkyl and heteroaryl.

8. The composition of claim 7, wherein the pyrimidines and purines are substituted at a position selected from the group consisting of positions 1, 2, 3, 4, 7, and 8, and the pyrimidines and purines are selected from the group consisting of theophylline, caffeine, dyphylline, etophylline, acephylline piperazine, bamifylline, enprofylline and xantine having the chemical formula



wherein R¹ and R² are independently H, alkyl, alkenyl or alkynyl and R³ is H, aryl, dicycloalkyl, dicycloalkenyl, dicycloalkynyl, cycloalkyl, cycloalkenyl, cycloalkynyl, O-cycloalkyl, O-cycloalkenyl, O-cycloalkynyl, NH₂-alkylamino-ketoxyalkyloxy-aryl and mono and dialkylaminoalkyl-N-alkylamino-SO₂ aryl.

9. The composition of claim 8, wherein the universal base is selected from the group consisting of 3-nitropyrrole-2'-deoxynucleoside, 5-nitro-indole, 2-deoxyribosyl-(5-nitroindole), 2-deoxyribofuranosyl-(5-nitroindole), 2'-deoxyinosine, 2'-deoxynebularine, 6H, 8H-3,4-dihydropyrimido [4,5-c] oxazine-7-one or 2-amino-6-methoxyaminopurine.

10. The composition of claim 1, where one or more methylated cytosine(s) (^mC) is(are) substituted for a C in one or more CpG dinucleotide(s), if present in the oligo(s).

11. The composition of claim 1, wherein one or more mononucleotide(s) of the oligo(s) is(are) linked or modified by one or more methylphosphonate, 5'-N-carbamate, phosphotriester, phosphorothioate, phosphorodithioate, boranophosphate, formacetal, thioformacetal, thioether, carbonate, carbamate, sulfate, sulfonate, sulfamate, sulfonamide, sulfone, sulfite, sulfoxide, sulfide, hydroxylamine, methylene(methylimino) (MMI), methoxymethyl (MOM), methoxyethyl (MOE), methyleneoxy (methylimino) (MOMI), 2'-O-methyl, phosphoramidate, C-5 substituted residues, or combinations thereof.

12. The composition of claim 11, wherein the mononucleotide residues are linked by phosphorothioate residues.

13. The composition of claim 1, wherein the anti-sense oligo comprises about 7 to about 60 mononucleotides.

14. The composition of claim 1, wherein the anti-sense oligo comprises fragments 1, 3, 5, 7 and 8 to 2313 (SEQ. ID NOS: 1 through 2419).

15. The composition of claim 1, wherein the anti-sense oligo is operatively linked to, or complexed with, an agent selected from the group consisting of cell internalized or up-taken agents and cell targeting agents.

16. The composition of claim 15, wherein the cell internalized or up-taken agent is selected from the group consisting of transferrin, asialoglycoprotein and streptavidin.

17. The composition of claim 1, wherein the oligo is operatively linked to a vector that is a prokaryotic or eukaryotic vector.

18. The composition of claim 1, wherein the oligo(s) is(are) hybridized to a ribonucleic acid.

19. A cell, carrying the oligo of claim 1.

20. The composition of claim 1, wherein the carrier or diluent is selected from the group consisting of gaseous, liquid, and solid carriers or diluents.

21. The composition of claim 20, further comprising an agent selected from the group consisting of other therapeutic agents, surfactants, flavoring and coloring agents, fillers, volatile oils, buffering agents, dispersants, RNA inactivating agents, anti-oxidants, flavoring agents, propellants and preservatives.

22. The composition of claim 21, comprising one or more oligo(s), a surfactant, and a carrier or diluent for the oligo and the surfactant.

23. The composition of claim 21, wherein the agent is an RNA inactivating agent which comprises an enzyme, optionally a ribozyme.

24. The composition of claim 1, wherein the anti-sense oligo is present in an amount of about 0.01 to about 99.99 w/w of the composition.

25. The composition of claim 1, which is a systemic or topical formulation.

26. The formulation of claim 25, selected from the group consisting of oral, intrabuccal, intrapulmonary, rectal, intrauterine, intratumor, intracranial, nasal, intramuscular, subcutaneous, intravascular, intrathecal, inhalable, transdermal, intradermal, intracavitary, implantable, iontophoretic, ocular, vaginal, intraarticular, otical, intravenous, intramuscular, intraglandular, intraorgan, intralymphatic, implantable, slow release and enteric coating formulations.

27. The formulation of claim 26, which is an oral formulation, wherein the carrier is selected from the group consisting of solid and liquid carriers.

28. The oral formulation of claim 27, which is selected from the group consisting of a powder, dragees, tablets, capsules, sprays, aerosols, solutions, suspensions and emulsions, optionally oil-in-water and water-in-oil emulsions.

29. The formulation of claim 25, which is a topical formulation, wherein the carrier is selected from the group consisting of creams, gels, ointments, sprays, aerosols, patches, solutions, suspensions and emulsions.

30. The formulation of claim 26, which is an injectable formulation, wherein the carrier is selected from the group consisting of aqueous and alcoholic solutions and suspensions, oily solutions and suspensions and oil-in-water and water-in-oil emulsions.

31. The formulation of claim 26, which is a rectal formulation, optionally a suppository.

32. The formulation of claim 26, which is a transdermal formulation, wherein the carrier is selected from the group consisting of aqueous and alcoholic solutions, oily solutions and suspensions and oil-in-water and water-in-oil emulsions.

33. The transdermal formulation of claim 32, which is an iontophoretic transdermal formulation, wherein the carrier is selected from the group consisting of aqueous and alcoholic solutions, oily solutions and suspensions and oil-in-water and water-in-oil emulsions, and wherein the formulation further comprises a transdermal transport promoting agent.

34. The formulation of claim 26, which is provided in an implant, a capsule or a cartridge.

5

10

15

20

25

30

35

40

45

53. The method of claim 51, wherein the composition is administered into the subject's respiratory system.

56. The method of claim 51, wherein the agent is administered as a respirable aerosol.

58. The method of claim 57, wherein the disease or condition is associated with an (ies), and the oligo is anti-sense to a target selected from the group consisting of the initiation and coding region, the 5'-end and the 3'-end genomic flanking regions, the 5' and 3' intron-exon junctions, and regions within 2 to 10 nucleotides of the junctions of a gene(s) encoding an immunoglobulin(s) and antibody(ies) and immunoglobulin and antibody receptors or are anti-sense to the immunoglobulin(s) and antibody(ies) and immunoglobulin and antibody receptors mRNA; combinations of oligo(s); and mixtures of the oligos.

60. The method of claim 51, wherein the composition is administered transdermally or
30 systemically.

62. The method of claim 51, wherein the subject is a non-human mammal.

63. The method of claim 51, wherein the mammal is a human.

65. The method of claim 51, wherein the oligo is obtained by

(a) selecting fragments of a target nucleic acid having at least 4 contiguous nucleic acids selected from the group consisting of G and C;

(b) obtaining a first oligonucleotide 4 to 60 nucleotides long which comprises the selected
45 fragment and has a C and G nucleic acid content of up to and including about 15%; and

(c) obtaining a second oligonucleotide 4 to 60 nucleotides long comprising a sequence which is anti-sense to the selected fragment, the second oligonucleotide having an A base content of up to and including about 15%.

65. The method of claim 64, wherein the oligo is A-free.

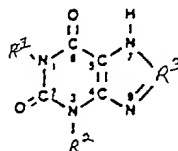
[illegible]

66. The method of claim 51, wherein the target is selected from the group consisting of the initiation codon, the coding region, the 5'-end and the 3'-end genomic flanking regions, the 5' and 3' intron-exon junctions, and regions within 2 to 10 nucleotides of the junctions of an oncogene or a gene encoding a target polypeptide associated with lung airway dysfunction or anti-sense to the polypeptide or oncogene mRNA; combinations of the oligo(s); and mixtures of the oligos; wherein the polypeptide is selected from the group consisting of transcription factors, stimulating and activating factors, interleukins, interleukin receptors, chemokines, chemokine receptors, endogenously produced specific and non-specific enzymes, immunoglobulins, antibody receptors, central nervous system (CNS) and peripheral nervous and non-nervous system receptors, CNS and peripheral nervous and non-nervous system peptide transmitters, adhesion molecules defensins, growth factors, vasoactive peptides, peptide receptors and binding proteins, and malignancy associated proteins.

67. The method of claim 51, wherein one or more As in the oligo(s) is(are) substituted by a universal base selected from the group consisting of heteroaromatic bases which bind to a thymidine base but have less than about 0.3 of the adenosine base agonist or antagonist activity at an adenosine A₁, A_{2a}, A_{2b} and A₃ receptors.

68. The method of claim 67, wherein the heteroaromatic bases are selected from the group consisting of pyrimidines and purines, which may be substituted by O, halo, NH₂, SH, SO, SO₂, SO₃, COOH and branched and fused primary and secondary amino, alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, alkoxy, alkenoxy, acyl, cycloacyl, arylacyl, alkynoxy, cycloalkoxy, aroyl, arylthio, arylsulfoxyl, halocycloalkyl, alkylcycloalkyl, alkenylcycloalkyl, alkynylcycloalkyl, haloaryl, alkylaryl, alkenylaryl, alkynylaryl, arylalkyl, arylalkenyl, arylalkynyl, arylcycloalkyl, which may be further substituted by O, halo, NH₂, primary, secondary and tertiary amine, SH, SO, SO₂, SO₃, cycloalkyl, heterocycloalkyl and heteroaryl.

69. The method of claim 67, wherein the pyrimidines and purines are substituted at positions 1, 2, 3, 4, 7 and 8 and the pyrimidines and purines are selected from the group consisting of theophylline, caffeine, dyphylline, etophylline, acephylline piperazine, bamifylline, enprofylline and xantine having the chemical formula



wherein R¹ and R² are independently H, alkyl, alkenyl or alkynyl and R³ is H, aryl, dicycloalkyl, dicycloalkenyl, dicycloalkynyl, cycloalkyl, cycloalkenyl, cycloalkynyl, O-cycloalkyl, O-cycloalkenyl, O-cycloalkynyl, NH₂-alkylamino-ketoxyalkoxy-aryl and mono and dialkylaminoalkyl-N-alkylamino-SO₂ aryl.

70. The method of claim 69, wherein the universal base is selected from the group consisting of 3-nitropyrrole-2'-deoxynucleoside, 5-nitro-indole, 2-deoxyribosyl-(5-nitroindole), 2-deoxyribofuranosyl-(5-nitroindole), 2'-deoxyinosine, 2'-deoxynebularine, 6H, 8H-3,4-dihydropyrimido [4,5-c] oxazine-7-one or 2-amino-6-methoxyaminopurine.

71. The method of claim 51, further comprising substituting a methylated cytosine (mC) for a C in one or more CpG dinucleotide(s), if present in the oligo(s).

72. The method of claim 51, further comprising substituting by, or modifying one or more nucleotide residue(s) of the oligo(s) with, methylphosphonate, phosphotriester, phosphorothioate, phosphorodithioate, boranophosphate, formacetal, thioformacetal, thioether, carbonate, carbamate, sulfate, sulfonate, sulfamate, sulfonamide, sulfone, sulfite, sulfoxide, sulfide, hydroxylamine, methylene(methyimino) (MMI), methoxymethyl (MOM), methoxyethyl (MOE), methyleneoxy

(methylimino) (MOMI), methoxy methyl (MOM), 2'-O-methyl, phosphoramidate, C-5 substituted residues, or combinations thereof.

73 The method of claim 51, further comprising operatively linking to, or complexing the oligo(s) with, an agent selected from the group consisting of cell internalized and up-taken agent(s) and cell targeting agents.

74. The method of claim 73, wherein the cell internalized or up taken agent is selected from the group consisting of transferrin, asialoglycoprotein, and streptavidin.

75. The method of claim 73, wherein the cell targeting agent is a vector, optionally a prokaryotic or eukaryotic vector.

76. A method of treating a disease or condition associated with a target selected associated with a disease or condition afflicting lung airways, comprising conducting the method of claim 56.

77. The method of claim 76, wherein the amount of oligo(s) administered is (are) effective to reduce the production or availability, or to increase the degradation, of the mRNA, or to reduce the amount of the polypeptide present in the lungs.

78. The method of claim 77, wherein the amount of oligo(s) administered is (are) effective to reduce the production or availability, or to increase the degradation, of the mRNA, or to increase the amount of the surfactant present in the subject's lungs.

79. The composition of claim 4, wherein the oligo(s) is(are) anti-sense to the initiation codon, the coding region, the 5'-end and the 3'-end genomic flanking regions, the 5' and 3' intron-exon junctions, and regions within 2 to 10 nucleotides of the junctions of a gene(s) encoding an adenosine A1, A2a, A2b and/or A3 receptor, or anti-sense to the adenosine A1, A2a, A2b and/or A3 receptor mRNA.

80. The composition of claim 79, wherein all nucleotide linking residues are phosphorothioates.

81. The composition of claim 1, wherein the oligo is a DNA.

82. The composition of claim 1, wherein the oligo is an RNA.

83. The composition of claim 1, wherein the oligo comprises about 7 to up to about 60 mononucleotides.

84. The composition of claim 79, wherein the oligo(s) is selected from the group consisting of fragment(s) SEQ ID NOS: 1, 3, 5, 7, 8, and/or 11 through 2419, optionally wherein at least one mononucleotide residue is substituted or modified by methylphosphonate, phosphotriester, phosphorothioate, phosphorodithioate, boranophosphate, formacetal, thioformacetal, thioether, carbonate, carbamate, sulfate, sulfonate, sulfamate, sulfonamide, sulfone, sulfite, sulfoxide, sulfide, hydroxylamine, methylene(methylimino), (MMI), methoxymethyl (MOM), methoxyethyl (MOE), methyleneoxy (methylimino) (MOMA), methoxy methyl (MOM), 2'-O-methyl, phosphoramidate residues and/or combinations thereof.

85. The method of claim 51, wherein the oligo is administered topically to the airway, respiratory or pulmonary epithelium of the subject.

86. The composition of claim 1, wherein the oligo has a particle size of about 5-10 μm or in the range of 10-500 μm .

87. The composition of claim 1, further comprising a propellant.

88. The method of claim 50, wherein the oligo has a particle size of about 5-10 μm or in the range of 10-500 μm .

89. The method of claim 50, further comprising adding to the oligo a propellant.

90. The method of claim 51, wherein the oligo has a particle size of about 5-10 μm or in the range of 10-500 μm .

91. The method of claim 51, further comprising adding to the oligo a propellant.

**LOW ADENOSINE ANTI-SENSE OLIGONUCLEOTIDE, COMPOSITIONS, KIT
& METHOD FOR TREATMENT OF AIRWAY DISORDERS ASSOCIATED
WITH BRONCHOCONSTRICTION, LUNG INFLAMMATION,
ALLERGY(IES) & SURFACTANT DEPLETION**

5

ABSTRACT OF THE INVENTION

An in vivo method of selectively delivering a nucleic acid to a target gene or mRNA, comprises the topical administration, e. g. to the respiratory system, of a subject of a therapeutic amount of an oligonucleotide (oligo) that is anti-sense to the initiation codon region, the coding region, the 5' or 3' intron-exon junctions or regions within 2 to 10 nucleotides of the junctions of the gene, or antisense to a mRNA complementary to the gene in an amount effective to reach the target polynucleotide and reducing or inhibiting expression. In addition a method of treating an adenosine mediated effect, comprises topically administering to a subject an anti-sense oligo in an amount effective to treat the respiratory, pulmonary, or airway disease. In order to minimize triggering adenosine receptors by their metabolism, the administered oligos have a low content of or are essentially free of adenosine. A pharmaceutical composition and formulations comprise the oligo anti-sense to an adenosine receptor, genes and mRNAs encoding them, genomic and mRNA flanking regions, intron and exon borders and all regulatory and functionally related segments of the genes and mRNAs encoding the polypeptides, their salts and mixtures. Various formulations contain a requisite carrier, and optionally other additives and biologically active agents. The low adenosine or adenosine free (des-A) agent for practicing the method of the invention may be prepared by selecting a target gene(s), genomic flanking region(s), RNA(s) and/or polypeptide(s) associated with a disease(s) or condition(s) afflicting lung airways, obtaining the sequence of the mRNA(s) corresponding to the target gene(s) and/or genomic flanking region(s), and/or RNAs encoding the target polypeptide(s), selecting at least one segment of the mRNA which may be up to 60% free of thymidine (T) and synthesizing one or more anti-sense oligonucleotide(s) to the mRNA segments which are free of adenosine (A) by substituting a universal base for A when present in the oligonucleotide. The agent may be prepared by selection of target nucleic acid sequences with GC running stretches, which have low T content, and by optionally replacing A in the anti-sense oligonucleotides with a "Universal or alternative base". The agent, composition and formulations are used for prophylactic, preventive and therapeutic treatment of ailments associated with impaired respiration, lung allergy(ies) and/or inflammation and depletion lung surfactant or surfactant hypoproduction, such as pulmonary vasoconstriction, inflammation, allergies, allergic rhinitis, asthma, impeded respiration, lung pain, cystic fibrosis, bronchoconstriction. The present treatment is suitable for administration in combination with other treatments, e.g. before, during and after other treatments, including radiation, chemotherapy, antibody therapy and surgery, among others. Alternatively, the present agent is effectively administered prophylactically or therapeutically by itself for conditions without known therapies or as a substitute for therapies exhibiting undesirable side effects. The treatment of this invention may be administered directly into the respiratory system of a subject so that the agent has direct access to the lungs, or by other effective routes of administration, e. g. topically, transdermally, by implantation, etc., in an amount effective to reduce or inhibit the symptoms of the ailment.

H:\epi\06719\epi-06719 PCT Application.doc

40 394887

09543679 040400